This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at http://books.google.com/

Econ 5810.2

Bound
[illegible] 1897

Harvard College Library.

FROM THE

UNITED STATES GOVERNMENT

THROUGH

The Publishers.

24 May–14 Aug 1897.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

VOL. LIV.

NOS. 200, 201, 202, AND 203.

MAY, JUNE, JULY, AND AUGUST, 1897.

DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1897.

782/11 ~~VI. 990~~

Econ 5810.2

1897, Mar. 24 – Aug. 14.
Gift of
The Publishers.

Σ 11990

Vol. LIV. No. 200.

CONSULAR REPORTS.

24

MAY, 1897.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]

DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1897.

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—Commercial Relations, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—Consular Reports, issued monthly, and containing miscellaneous reports from consular officers.

III.—Advance Sheets, Consular Reports, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—Exports Declared for the United States, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—Special Consular Reports, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as Consular Reports No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled Special Consular Reports. There are now the following Special Consular Reports:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries.

Vol. 4 (1892).—Port Regulations in Foreign Countries.

Vol. 5 (1892).—Canals and Irrigation in Foreign Countries.

Vol. 6 (1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (1894).—American Lumber in Foreign Markets.

Vol. 12 (1895).—Highways of Commerce.

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Of these Special Consular Reports, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly Consular Reports, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving Consular Reports regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."

MAY 2? 1897 MASS.

CONTENTS.

Page.

I.—New Tariff of Colombia……*Bidlake* 1
II.—Street-Car Systems in Montevideo……*Schramm* 3
III.—Electric Light and Power Station at Piedras Negras……*Simmons* 6
IV.—The Region of the Yangtze Kiang……*Jones* 9
V.—New Taxes in Mozambique……*Hollis* 28
VI.—Banking Systems in Switzerland……*Watts* 30
VII.—Australian Wool Sales and Mint Returns……*Maratta* 34
VIII.—The Government of Norfolk Island……*Robinson* 37
IX.—Draft Horses in Bradford…… } *Meeker* 40
X.—Improved Spinning Machinery in Bradford…… } 45
XI.—Timber Trade of Ireland…… } *Ashby* 47
XII.—Agricultural Statistics of Ireland…… } 51
XIII.—The Mineral Industry of Great Britain……*McGhee* 52
XIV.—Cost Price of Coal in Europe…… } *Morris* 55
XV.—The Ports of Ghent and Ostend…… } 58
XVI.—Bicycle Regulations in Europe……*P. S. Chancellor* 58
XVII.—Fluid Air for Industrial Uses……*de Kay* 63
XVIII.—Wine Production of France…… 65
XIX.—French Vintage of 1896……*Wiley* 67
XX.—New Customs Regulations in Colombia……*Bidlake* 69
XXI.—Telegraphic Signaling on Board Ship……*Johnson* 70
XXII.—Fog Signals for Steamers……*Christensen* 71
XXIII.—Economic and Social Problems in Europe. } *C. W. Chancellor* 73
XXIV.—Profit Sharing in England…… } 78
XXV.—French Mining Statistics……*Whiley* 85
XXVI.—Straw Plaiting in Germany…… } *Stephan* 86
XXVII.—Sewing Needles in Germany…… } 92
XXVIII.—Germany's Place Among Industrial Nations…… } 94
XXIX.—Industrial Education in Germany…… } 95
XXX.—German versus Finnish Butter…… } 96
XXXI.—German Trade in the Argentine Republic…… } 98
XXXII.—Germany's Textile Industries in 1896…… } *Monaghan* 98
XXXIII.—Machinery in Germany…… } 102
XXXIV.—German Exports to New South Wales…… } 103
XXXV.—Russian Rubbers in Germany…… } 104
XXXVI.—The Unemployed in Germany…… } 105
XXXVII.—German Exports to Italy……*Stephan* 106

Page.
XXXVIII.—ARTIFICIAL SILK IN GERMANY..*Sawter* 107
XXXIX.—EUROPEAN PRODUCTION AND EXPORTS OF IRON.......... } *Stephan* 110
XL.—FRENCH FLOUR IN GERMANY.. } 112
XLI.—GALICIAN KEROSENE IN GERMANY......................................*Karel* 114
XLII.—LYONS VERSUS ZURICH SILK INDUSTRY.......................*Germain* 115
XLIII.—MINERAL STATISTICS OF SPAIN...*Fay* 117
XLIV.—SPAIN'S PRODUCTION AND EXPORTATION OF IRON.......*Bartleman* 118
XLV.—SPANISH SILKWORM GUT...*Mertens* 119
XLVI.—CURRANT CROP OF GREECE...*Jenkins* 120
XLVII.—AMERICAN TOOLS AND MACHINERY IN GERMANY.......*Monaghan* 122
XLVIII.—THE BEER INDUSTRY IN BAVARIA..............................*Carpenter* 126
XLIX.—MACHINE BUILDING IN RUSSIA.................................*Monaghan* 129
L.—AMERICAN WOMEN AT ZURICH...*Germain* 133
LI.—SHIPBUILDING IN EUROPE IN 1896...*Kirk* 135
LII.—THE SUGAR INDUSTRY IN THE WEST INDIES.................*Percival* 138
LIII.—RAILROAD STRIKE IN ZURICH.......................................*Germain* 140
LIV.—TREATMENT OF PLANTS WITH ETHER........ ....*Kirk* 143
LV.—NOTES (A Railway Hospital Car—Paraffin Oil in the Netherlands—The Slate Trade in Belgium—American Cheese in Germany—Increase of Duty on Leather in Sweden and Norway—Military Cloth and Boots Wanted—Water Franchise in Craiova—Cure of the South African Cattle Plague—Swiss Imports of Domestic Animals—Replanting of Forests in Switzerland—German Beet-Sugar Production—Picture Molding, Wire, and Hooks—Projected Railroad in Bulgaria—Artificial Ice in Venice—Spain's Production of Books—Visitors at Bohemian Springs in 1896—A Mexican Colony—Coffee Exports from Santos—Freight Rates from New York to Nicaragua—Quarantine Laws in Peru—Exposition of Machinery in Lima—Direct Trade with Iquitos—Demand for Rice-Hulling Machines in Madagascar—Australasian Gold—Agriculture in Canada—American Railway Project in China—Consular Reports Transmitted to Other Departments).. 145
LVI.—FOREIGN REPORTS AND PUBLICATIONS (Portuguese Colonies in West Africa—A Sugar Refinery in Mozambique—Portuguese Colonial Finances—Aids to Colonial Development; Botanical Gardens—A German Colonial Museum—Commerce in the Dutch East Indies—Commerce of Greece in 1896—Iron Industry in England, Germany, and America—Commerce of Paraguay—The Flora of Paraguay—Mexican Commerce in November, 1896—Italian Commerce in 1896 and in January, 1897—French Commerce for January and February, 1897—Savings Banks in France—Commerce of Crete—German Commerce in 1896—Condition of Tunis in 1896).. 160

REPORTS BY COUNTRIES.

AUSTRALASIA: Page.
  Gold in........ 157
AUSTRALIA:
  Wool sales and mint returns in........ 34
BAVARIA:
  Beer industry of........ 126
BELGIUM:
  A railway hospital car in........ 145
  The ports of Ghent and Ostend........ 58
  The slate trade in........ 146
BOHEMIA:
  Visitors at springs of, in 1896........ 153
BRAZIL:
  Coffee exports from Santos........ 154
BULGARIA:
  Military cloth and boots wanted in........ 149
  Projected railroad in........ 152
CANADA:
  Agriculture in........ 158
CHINA:
  American railway project in........ 158
  Region of the Yangtze Kiang........ 9
COLOMBIA:
  New customs regulations in........ 69
  New tariff of........ 1
DENMARK:
  Fog signals for steamers........ 71
  Treatment of plants with ether in........ 143
ENGLAND:
  Draft horses in Bradford........ 40
  Improved spinning machinery in Bradford........ 45
  Profit sharing in........ 78
EUROPE:
  Bicycle regulations in........ 58
  Cost price of coal in........ 55
  Direct trade with Iquitos........ 156
  Economic and social problems in........ 73
  Production and exports of iron........ 110
  Shipbuilding in 1896........ 135
FRANCE:
  Mining statistics of........ 85
  Vintage of 1896........ 67
  Wine production of........ 65
GERMANY:
  American cheese in........ 147
  American tools and machinery in........ 122

GERMANY—Continued. Page.
- Artificial silk in 107
- Beet-sugar production in 151
- Butter of, versus Finnish 96
- Exports from, to Italy 106
- Exports from, to New South Wales 103
- Fluid air for industrial uses in 63
- French flour in 112
- Galician kerosene in 114
- Industrial education in 95
- Machinery in 102
- Place of, among industrial nations 94
- Russian rubbers in 104
- Sewing needles in 92
- Straw plaiting in 86
- Textile industries of, in 1896 98
- The unemployed in 105
- Trade of, in the Argentine Republic 98

GREAT BRITAIN:
- The mineral industry of 52

GREECE:
- Currant crop of 120

IRELAND:
- Agricultural statistics of 51
- Timber trade of 47

ITALY:
- Artificial ice in Venice 152
- Telegraphic signaling on board ship 70

MADAGASCAR:
- Demand for rice-hulling machines in 156

MEXICO:
- Colony in 173
- Electric light and power station at Piedras Negras 6

MOZAMBIQUE:
- New taxes in 28

NETHERLANDS:
- Paraffin oil in 146

NICARAGUA:
- Freight rates from New York to 155

NORFOLK ISLAND:
- Government of 37

NORWAY:
- Increase of duty on leather in 148

PERU:
- Direct trade between Europe and Iquitos 156
- Exposition of machinery in Lima 155
- Quarantine laws of 155

ROUMANIA:
- Water franchise in Craiova 149

RUSSIA:
- Machine building in 129

SOUTH AFRICA:
- Cure of the cattle plague in 150

SPAIN: Page.
Mineral statistics of ... 117
Production and exportation of iron ... 118
Production of books in ... 153
Silkworm gut in ... 119
SWEDEN:
Increase of duty on leather in ... 148
SWITZERLAND:
American women at Zurich ... 133
Banking systems in ... 30
Imports of domestic animals into ... 150
Lyons versus Zurich silk industry ... 115
Picture molding, wire, and hooks in ... 151
Railroad strike in Zurich ... 140
Replanting of forests of ... 151
UNITED STATES:
Freight rates from New York to Nicaragua ... 155
URUGUAY:
Street-car systems in Montevideo ... 3
WEST INDIES:
The sugar industry in ... 138

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1897, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.4 cents in April, 1897, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz, (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*.	Gold and silver..	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver--peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver..	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	do	Dollar	1.00	
Chile	Gold	Peso	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Cuba	Gold and silver..	do	.92,6	Gold—doubloon ($5.01,7), silver—peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver..	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar	1.00	
Netherlands‡	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar	1.01,4	Gold—$2 ($2.02,7).
Portugal	do	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain	Gold and silver..	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela	Gold and silver..	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

---

* In 1874 and 1875, the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ended July 1, 1892. The next quarter (October 1) inaugurated the gold standard (see note under table of "fluctuating currencies").

‡ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–1890.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1890; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	…………	…………
China	Silver	Haikwan tael	1.61	1.61	…………	…………	…………	…………
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	…………	…………	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	…………	…………
	Silver		…………	…………	…………	…………	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.38,5	.40,2	…………	…………
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on Janury 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	…………	…………	…………	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.94,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	…………	…………	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

---

* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1894.				1895.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.51,6	$0.46,5	$0.45,7	$0.46,4	$0.45,5	$0.44,1	$0.48,6	$0.48,6
Central America.	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
China*	Shanghai tael	.76,2	.68,6	.67,6	.68,5	.67,3	.65,2	.71,8	.71,8
	Haikwan tael	.84,9	.76,5	.75,3	.76,3	.74,9	.75,6	.80	.80
	Tientsin tael	....	....	....	.72,7	.71,4	.69,2	.76,1	.76,2
	Chefoo tael	....	....	....	.71,7	.70,4	.68,3	.75,1	.75,2
Colombia	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Ecuador	do	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
India	Silver rupee	.24,5	.22,1	.21,7	.22	.21,6	.21	.23,1	.23,1
Japan†	Silver yen	.55,6	.50,1	.49,3	.50	.49,1	.47,6	.52,4	.52,4
Mexico	Silver dollar	.56	.50,5	.49,7	.50,4	.49,5	.47,9	.52,8	.52,8
Persia	Silver kran	....	....	....	....	....	....	.08,9	.09
Peru	Silver sol	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Russia‡	Silver ruble	.41,3	.37,2	.36,6	.37,1	.36,4	.35,3	.38,9	.38,9
Tripoli	Silver mahbub	.46,5	.41,9	.41,3	.41,8	.41,1	.39,8	.43,8	.43,8

Countries.	Monetary unit.	1896.				1897.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano.	$0.49,1	$0.49,3	$0.49,7	$0.49	$0.47,4	$0.46,8
Central America	Silver peso	.49,1	.49,3	.49,7	.49	.47,4	.46,5
China*	Amoy tael	....	....	....	.79,3	.76,7	.75,7
	Canton tael	....	....	....	.79	.76,5	.75,5
	Chefoo tael	.75,9	.76,3	.76,9	.75,8	.73,3	.72,4
	Chinkiang tael	....	....	....	.77,4	.74,9	.73,9
	Fuchau tael	....	....	....	.73,3	.70,9	.70
	Haikwan tael	.80,8	.81,2	.81,9	.80,6	.78	.77
	Hankow tael	....	....	....	.74,2	.71,7	.70,8
	Ningpo tael	....	....	....	.76,2	.73,7	.72,8
	Niuchwang tael	....	....	....	.74,3	.71,9	.71
	Shanghai tael	.72,5	.72,9	.73,5	.72,4	.70	.69,1
	Swatow tael	....	....	....	.73,2	.70,8	.69,9
	Takao tael	....	....	....	.79,8	.77,2	.76,2
	Tientsin tael	.76,9	.77,3	.78	.76,8	.74,3	.73,4
Colombia	Silver peso	.49,1	.49,3	.49,7	.49	.47,4	.46,8
Ecuador	do	.49,1	.49,3	.49,7	.49	.47,4	.46,8
India	Silver rupee	.23,3	.23,4	.23,6	.23,3	.22,5	.22,2
Japan†	Silver yen	.52,9	.53,2	.53,2	.52,8	.51,1	.50,5
Mexico	Silver dollar	.53,3	.53,6	.54	.53,2	.51,5	.50,8
Persia	Silver kran	.09	.09,1	.09,2	.09	.08,7	.08,6
Peru	Silver sol	.49,1	.49,3	.49,7	.49	.47,4	.46,8
Russia‡	Silver ruble	.39,3	.39,5	.39,8	.39,2	.37,9	.37,4
Tripoli	Silver mahbub	.44,3	.44,5	.44,9	.44,2	....	....

*China (silver). The haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or haikwan, tael, in which all duties have to be paid, and the other the market tael." The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

†Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1⅚ acres.
Marc	Bolivia	0.507 pound.
Maund	India	$82\frac{2}{7}$ pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castile	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Vara	Chile and Peru	33.367 inches.
Do.	Cuba	33.384 inches.
Do.	Curaçao	33.375 inches.
Do.	Mexico	33 inches.
Do.	Paraguay	34 inches.
Do.	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.418 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LIV. MAY, 1897. No. 200.

NEW TARIFF OF COLOMBIA.*

I have the honor to forward a translation, with explanatory notes, of the new customs tariff of Colombia, which goes into effect March 28, 1897.

JOHN BIDLAKE,
Consul.

BARRANQUILLA, *February 9, 1897.*

CHANGES IN THE COLOMBIAN CUSTOMS TARIFF—LAW 160 OF 1896.

The Congress of Colombia decrees:

ARTICLE 1. The duties which are collected by the custom-houses are augmented by 20 per cent on articles included in classes 2 to 13, inclusive, and by 50 per cent on the articles included in the fourteenth and fifteenth classes of the tariff in force.

ART. 2. A sixteenth class of the tariff is established, the articles of which will pay 3 pesos ($1.20) per kilogram (2.2046 pounds), as follows: Side arms, firearms, or arms of any kind, excepting shotguns; brocades and all other materials of gold and silver or other metals, as well as threads of the same materials; perfumery and toilet articles, as essences, creams, and perfumed soaps; gold and silver in every form, except coins and bars; precious stones and playing cards.

ART. 3. The increase of which this law treats will be collected on the original duties fixed by law 36 of 1886 and according to the terms of article 205 of the constitution.

ART. 4. From the increase of duties established by article 1, the following articles are exempted: Coal, which will pay one-half of 1 cent per kilogram; materials introduced for the manufacture of ice (the same as coal); crucibles for smelting purposes; presses and printing machines; unsized printing paper; rails and material for public or private railways, not otherwise excepted; ships in whole or in part, and their respective machinery; blue cottons, white or partly white cottons, without embroidery or borders, and unmade, as white shirtings, calico, gray stiffened domestics, unbleached cottons, drills, and cotton prints. The provisions of the present law do not alter the resolution dictated by the Secretary of the Treasury on July 6, 1895, in relation to this class.

---

* See "New customs regulations in Colombia," p. 69, received too late for insertion here.

ART. 5. The Government is authorized to include in the same class of the tariff similar articles which may have been distributed in various classes.

ART. 6. The postal service being paid by the Universal Postal Union, the tonnage duty created by article 192 of the fiscal code is reestablished, which duty will be collected by the respective custom-houses at the rate of 1.50 pesos (60 cents) a ton and according to terms fixed by said article.

ART. 7. The exemptions from customs dues granted by law or by contract made with the Government to railways, navigation companies, industrial manufactories, etc., in which specifications are not made and materials and tools for said enterprise are not stipulated, only comprise machines and their parts, rails, nails, instruments, rolling stock, and articles pertaining to telegraphs. All other goods which may be introduced will pay the duties according to the class of the tariff to which they belong.

ART. 8. The Government is authorized to establish a duty up to 2 pesos (80 cents) on packages sent by mail, in proportion to their weight, when the respective contracts permit it.

ART. 9. Merchandise brought in the baggage of passengers, although not reaching the limit of 150 kilograms (331 pounds), will pay duty of the sixteenth class.

Every artisan or agriculturist arriving is permitted to introduce free of duty, besides his baggage, 100 kilograms (220.46 pounds) of the tools necessary for his occupation, in the opinion of the Government.

ART. 10. The Government is authorized to diminish or suppress the duties of which this law treats on goods introduced through the custom-house of Tumaco, if considered advisable.

ART. 11. From January 1, 1897, the rates of stamped paper and stamps will be as follows: First class, 30 centavos (12 cents); second class, 1 peso (40 cents); and third class, 2 pesos (80 cents).

The Government will take measures that the stamped paper and stamps may not be used without a special countermark indicating the new price.

NOTES IN EXPLANATION OF THE VARIOUS LAWS AND THE RESOLUTION REFERRED TO IN THE NEW TARIFF REGULATIONS.

Law 36 of 1886, in article 3, is the customs tariff now in force.

Article 205 of the constitution, referred to in article 3, reads: "No variation in the customs tariff will commence to be in force until ninety days after the sanction of the law which established it, and all increase or decrease will be made by decimal parts in the ten months subsequent. This disposition and the anterior article do not limit the extraordinary faculties of the Government when it is considered necessary."

The resolution of the Secretary of the Treasury referred to in article 4 reads as follows: "Respecting the enterprise mentioned in the aforesaid memorial (electric-light plant of Bogotá), the Government is disposed to make use of the authority that article 1, law 65 of 1887, confers on it, and in accordance with decree 523 of the same year (D. O. 7, 185), to declare that it considers of the second class all of those articles mentioned in the memorial, be they imported in one lot or separately, being as they are one machine with its necessary equipments, weighing more than 2,204 pounds, provided that the petitioners prove that these articles are of the same kind as before mentioned and are destined for this enterprise."

Article 192 of the fiscal code, referred to in article 6, reads: "Tonnage dues will be collected on ships which enter the ports of the Republic at the rate of 1 peso per 1,000 kilograms (40 cents per 2,204 pounds) gross weight of merchandise landed, excepting coal, salt, ice, bricks, tiles, and stones for flooring, for the discharge of which no tonnage will be collected."

Articles 11 and 22 of law 109 of 1880, referred to in the paragraph in article 6, read as follows: "Article 11. National ships which bring merchandise in any form from any free or habilitated port of the Republic to any habilitated port of the same will be exempted from the payment of tonnage dues."

Article 22 reads: "Those steamers will not be subject to the payment of tonnage dues which make regular trips, whose owners, captains, or agents solicit this privilege from the collector of customs or chief of the customs guard, and who have obtained the approbation of the Executive power, agreeing, first, to take and bring free of charge from one port to another of the Republic and from the ports of Colombia and foreign ports and vice versa the correspondence and paper mail of the General Government, of the States, and particular mails which are delivered in national or State sacks, and to pay tonnage dues when failing to comply with this regulation; second, to carry for half price, according to their tariff, the national employees, when traveling as employees, and the effects which they transport for the Government."

National merchant ships are exempted from tonnage dues when they conform to the conditions respecting steamers.

STREET-CAR SYSTEMS IN MONTEVIDEO.

Montevideo, with a population of about 245,000 inhabitants, has in actual operation nine different lines of street railways, covering a distance of 176 kilometers (about 110 miles) with the old-fashioned horse-car system.

The following tables* will show the extent of the various lines, the number of people employed, the horses and cars belonging to each line, the number of trips made during various years, the passengers carried during these periods, and the expenses and profits of some of the companies. The average fare from station to station is 4 cents, but as some of the lines have various stations along the lines, the fare is sometimes 8 and 10 cents from one end of the line to the other. In general, the service is prompt and good, taking the old horse-car system into consideration.

Paso Molino and Cerro Tramway.—This made during the year 1896, 288,344 trips, covering 879,812 miles. It carried 3,025,346 passengers and collected $162,640 in fares. Its expenses were $103,681. Its reserve fund was $6,540 and dividends distributed during the year amounted to $54,900.

The total length of the line is about 20 miles. This is a stock company, of which the shareholders are citizens of Montevideo. The shares are of a value of $500 each on a capital of $720,000, and are quoted on the stock exchange here with a premium of 5 per cent. The concession was granted in 1872 and again in 1887; no time of expiration is given. The Government reserved the right to at any time expropriate the line for its own use by the appointment of joint arbiters. The original capital of the line was $195,000, which has been artificially raised to $794,000. The only actual increase is in the value of the property owned by the company, which is doubtless considerable.

---

* The tables, as given in detail by Consul Schramm, have been summarized by the Bureau of Statistics, Department of State.

Tramway to La Union and Maronas.—The length of the line is 22 miles. The number of trips made in 1895 was 131,766; number of passengers carried, 3,440,889; number of employees, 120.

This is a stock company, of which the shares are owned by citizens of Montevideo. The capital stock is given at $800,000 in shares of $100 each, which are quoted at the exchange at about 98 per cent. Particulars as to the original capital really invested can not be obtained. The concession was granted from 1867 to 1873, in different parts, for the term of twelve years and twenty years, respectively. The municipality reserves the right of purchase after the term of concession has expired by the appointment of a joint committee of arbitration.

Tramway Del Este.—The length of the line is about 6⅓ miles. The number of trips made during the year 1895 was 106,682; the number of passengers carried, 2,174,605. It employs 80 men and 330 horses.

This was a stock company, but is at present involved in a lawsuit. No one can give particulars regarding the standing of this corporation at present. The stock is supposed to be owned by citizens of Montevideo. The concessions were granted in 1870 and 1883 for the different parts of this line, and the terms of the concessions are from twelve to twelve years running. If the first twelve years have expired without the municipality giving notice of wishing to appropriate the line for its own use, the concession is supposed to be in force for another twelve years. The procedure of expropriating is the same as with the lines before mentioned.

Tramway Del Reducto.—This line is 17 miles long. In 1895, 96,997 trips were made, 2,145,301 passengers carried, and 130 men employed.

This company is of English origin and controlled by Baring Bros. & Co., through their agent here. No particulars as to capital stock or the value of the shares can be obtained. The shares of this company are not quoted at the exchange of Montevideo. The concession of this line was granted in 1872 and 1873. For one part of the line no time is specified, and it can be expropriated by the municipality at any time; for another part, the term of twenty-five years was granted by the municipality, subject to the same laws as the other.

Tramway Del Norte.—Length of line, 10½ miles. Number of trips made during 1895, 41,300; number of passengers carried, 1,791,270; number of horses in use, 400; number of men employed, 90.

This is a stock company, the capital stock of which is not known. The nominal shares are of $500 each, and are quoted at the Montevideo Stock Exchange at 25 per cent of their face value. This company has a contract with the municipality of Montevideo for the carrying of the meat supplies to the city, and on that account has advantages. The concession was granted in 1872 for a term of eighteen years. In the year 1875, the term of the concession was extended to twenty-five years from the original date. After the expiration of the time of concession all the property belonging to this line goes over to the municipality gratis, together with the slaughter-houses, etc., belonging to the company.

Oriental Tramway.—Length of line, 14½ miles. Number of trips in 1895, 103,868; number of passengers, 3,729,602; number of employees, 200.

The original concession was for twenty years, after which time the property of the company reverted to the Government, and the latter sold the line to four men, who claim to have paid for the system, together with a fifty years' concession for a certain part of the line, the sum of £300,000 ($1,459,950).

Tramway to Pocitos, Buceo, and Union.—The line is 8 miles long. During the year 1895 the number of trips made was 66,558, the number of passengers carried was 1,312,193, and the number of employees was 152.

This is a company of English origin and is controlled by Baring Bros. & Co., through their agent here. The concession was granted in 1873 for the term of twelve years. In the year 1876, it was renewed for eighteen years, the municipality reserving the right to expropriate by a joint committee of arbitration at the end of the concession.

Montevideo Tramway.—Length of line, 4⅔ miles; number of trips made in 1895, 26,710; number of passengers carried, 438,296; number of employees, 32.

This company is of English origin and has a legal representative here. The concession was granted in 1890 for twenty-five years. The shares of this company are of the value of £10 ($48.66) each and are all placed in England. The capital stock is said to be £45,000 ($218,992.50).

Central Uruguay Tramway.—Length of line, 5⅔ miles; number of trips during 1895, 27,295; number of passengers, 424,102; number of employees, 32.

This company is of English origin. The date and conditions of concession could not be obtained. This company is now consolidated with the Montevideo Tramway and it can not be said whether the shares of £45,000 ($218,992.50) cover both or only one of these lines.

The average cost of construction per mile, I have been informed, is about $4,827. The cost of the rails is about $3,218, leaving $1,609 for the construction of the roadbed and pavement of street, etc., a feature of each concession being that the company must pave the street which it passes over, if not already paved, and keep said pavement in good order. The pavement consists of granite blocks of about 6 by 10 face and requires little repair after being once laid. All of this is included in the $1,609 per mile, as above stated.

According to this, the actual cost of construction of the entire street-car system of Montevideo, together with its equipment, would seem to reach only the following insignificant amount:

110 miles of road at $4,827 per mile	$530,970
528 coaches at an average of about $700 each	369,600
3,467 horses at an average of about $20 each	69,340
Value of harness at an average of about $20 each	69,340
Total	1,039,250

The various stations, stables, offices, etc., are excepted in the statement of expenses.

It will be noticed that several of the single lines are capitalized to almost the above-named sum, and have paid a good percentage on such capitalization to the shareholders, notwithstanding the expense of such old-time systems. It is obvious that much more could be gained by the introduction of a modern system, the principal feature of which would consist in the saving of time and labor.

It is not within the province of this report to say how this could be brought about. It is likely that it would be almost impossible unless the Government would withdraw from the opposing companies the concessions as soon as they had expired, expropriating such property to the use of the municipality and granting it later to a new company.

Since all difficulties, however, can be overcome with sufficient means and energy on the part of those who may feel inclined to make the attempt, I give this in answer to the different inquiries regarding the possibility of establishing an electric street-railway system in Montevideo.

EDGAR SCHRAMM,

MONTEVIDEO, *January 27, 1897.* *Consul.*

ELECTRIC LIGHT AND POWER STATION AT PIEDRAS NEGRAS.

I have the honor to forward a description of the electric light and power station of the Mexican International Railroad at this point, which was inaugurated a few nights since, with a number of the Mexican officials present and taking part in the exercises.

The building is of white brick, 50 feet 8 inches long and 53 feet 2 inches wide. The main entrance faces the south, there being another entrance on the west side, facing the boiler house. The floor level is 2 feet above the ground level, and is of cement on a foundation of broken stone. The height of the room to the bottom of the trusses is 16 feet. The roof has a pitch toward the east and west and the rise at the center is 11 feet. It consists of two iron trusses sheathed with wood, and is covered with tin. The roof trusses were made by the Wrought Iron Bridge Company, Canton, Ohio, and the building was erected by the mechanical department of the railroad.

The designs were made with a view of belting a 200-horsepower Ames engine to each end of the line shafting, which is in three sections, the middle section coupling to either or both of the end sections by means of friction clutches. This shafting is of iron and was forged at the shops here. The clutches, pulleys, and plummer blocks were made by Messrs. William Sellers & Co., Philadelphia, Pa.

At present, there is only one engine installed. It was made by the Ames Iron Works, of Oswego, N. Y., and is a high-speed automatic cut-off engine, having a cylinder of 18 inches diameter and 16 inches stroke, and has a capacity of 200 horsepower at 240 revolutions per minute and 80 pounds initial steam pressure. Its total weight is 20,000 pounds. It has two fly wheels 78 inches diameter and 18 inches face, which are belted by means of two 14-inch double leather belts to the two receiving pulleys on the line shafting. Besides these receiving pulleys, there are three transmitting pulleys belting to two lighting generators and one special power generator for an electric pump.

The lighting generators are continuous-current, belt-driven machines, four poles, 25 K. W. capacity at 675 revolutions per minute, and are compound wound for from 240 volts (no load) to 250 volts (full load). They were made by the General Electric Company, of Schenectady, N. Y. The special power generator for the electric pump is of the same type and style as the lighting generators, having a capacity of 40 K. W., and is compound wound for from 500 volts (no load) to 600 volts (full load) at a speed of 700 revolutions per minute.

The electric pump consists of a Knowles duplex piston power pump, driven by a 50-horsepower electric motor through a train of gearing. The pump has two water cylinders 8 inches in diameter and 12-inch stroke and at a speed of 38½ revolutions per minute has a capacity of 400 gallons of water per minute through 10,000 feet of 6-inch pipe to an elevation of 71 feet, or an estimated total head, including friction, of 250 feet. The motor, which was also made by the General Electric Company, is shunt wound for 500 volts and has a speed of 575 revolutions per minute. It is bolted to a bedplate directly above the crosshead guides. The speed is reduced and power transmitted to the crank pins by means of a double reduction gearing, and the crank pins are connected to the pistons by means of connecting rods. The pumping station is situated 2 miles from the power station, on the banks of the River Escondido. Heretofore, the pumping has always been done by means of steam pumps, but the coal had always to be hauled by wagon from the side track on the railroad, which is 1,500 feet from the pump house.

The transmission line consists of two No. 00 B. & S. weatherproof wires and one No. 8 B. & S. weatherproof wire. This No. 8 wire is to permit of the motor being started from the power station by means of a starting rheostat. The starting rheostat has an automatic magnetic locking device, by means of which, if the motor field circuit should become broken at any time, the main circuit will be broken before damage can be done to either the motor or the dynamo.

The wiring for lights is on the Edison three-wire system, and the present installation is about six hundred 16-candlepower incandescent lamps and twenty-four Thomson 93' incandescent arc lamps. The lighting generators are connected to the outside lines of the lighting system and the balancing load is regulated by means of a motor generator set consisting of a 5 K. W. 250-volt motor coupled to a 5 K. W. 125-volt generator, and this generator is connected to the side of the system which is overbalanced.

The main feeders for the lighting system consist of two 0000 B. & S. and one No. 0 B. & S. conductors running to a point 900 feet north of the station, where the size of copper is reduced and branches off in three directions. The arc lamps are wired in series of four, and the lines are run into the power station so as to be controlled from there.

The switch board is of marbleized slate, with the suitable switches, circuit breakers for each dynamo, and Weston round dial instruments mounted thereon. It was built by Messrs. Eyanson & Armpriester, Philadelphia, Pa.

A 25 K. W. General Electric slow-speed 250-volt motor is to be installed in the foundry, the work of installation being now under way. Power is now supplied by means of a steam engine, the steam line running underground and having a length of 550 feet. The conductors for the motor will consist of two No. 00 B. & S. rubber-covered cables, placed on a pole line. The lighting generators will supply current for this motor. This motor will supply power for the blower, hoist, rattlers, etc.

The boiler house, from which steam is now supplied to the foundry, carpenter shop, machine shop, and blacksmith shop, is 15 feet distant from the power house and contains three horizontal 75-horsepower return-flue boilers, carrying a pressure of 80 pounds per square inch. No additions to this steam plant will be made at present, as it will be of sufficient capacity for the 200-horsepower engine in the power station when the smaller steam engines throughout the shops are replaced by electric motors and the long steam lines replaced by copper cables.

SAMUEL M. SIMMONS,
PIEDRAS NEGRAS, *February 24, 1897.* *Consul.*

THE REGION OF THE YANGTZE KIANG.

In submitting the appended report, it has been my endeavor to give the most accurate information. For much of it, so far as trade statistics are concerned, I am indebted to the very elaborate returns made quarterly by the imperial maritime customs, to the statements of merchants, and especially to the notes of travelers whose correctness may be relied upon.

The whole trade of the Yangtze Valley, inhabited by a population of over 100,000,000, is conveyed on this mighty river and the great bulk passes inward and outward through Shanghai. The treaty ports on the river are the collecting centers toward which exports flow from the provinces, while the imports are received in Shanghai and thence carried by local steamers and lorchas to the various distributing centers on the river, of which Chinkiang is by no means the least.

It is thus seen that the Yangtze Kiang, one of the world's greatest highways, plays the most important part in the enormous traffic carried on in central China. A description of this river should therefore take precedence in any article on trade, and I purpose dealing with it first.

The Yangtze, from its source to its junction with the Min River, is called by another name, the "Kinsha" (golden sands), and only assumes its best-known appellation after swelling to most respectable proportions on its junction with the Tachung and Min rivers, when half of its course to the ocean is already completed. The actual source of the great river is a somewhat debatable question. Each of three branches, all rising in the Kuenlun Mountains, in northern Thibet, about the thirty-sixth degree of north latitude and the ninetieth degree of east longitude, seems to have an equally good claim to the distinction; but the honor is usually assigned to the Yamisitsu Ulanmuren, whose source is situated farthest from the north. It is a singular circumstance that nature should have placed the sources of three of the largest rivers of the world in such close proximity—the Yangtze Kiang, the Hoang-Ho (Yellow River), and the Brahmapootra; but the fact is easily explained by the enormous extent of the watershed which is drained by them and their numberless tributaries.

For some 500 miles from its source, the Yangtze flows in a southeasterly direction until it reaches the borders of Yun-nan, of which province, for some 250 miles, it forms the northern boundary. Few towns of any importance are found on its banks till reaching Yun-nan, but its great value as a highway of traffic then begins to be recognized and several populous cities are found even before its junction with the Tachung River. About 100 miles above this point, it takes first an easterly and then a northerly bend, forming a wide loop, which is for some 200 miles or more the boundary between Yun-nan on the south and Szechuen on the north, after which, in its course northeastward through the latter province, it is joined by the Min River. This is one of its principal tributaries, rising in eastern Thibet, just over the borders of Szechuen, and flowing through the very center of that rich and populous province until it empties into the Yangtze.

Cheng-tu, the capital of Szechuen, and Kia-ting, also a great center of commerce, are situated on the banks of this river, and at the junction of the Min and the Yangtze stands the great emporium of Suchow-fu, not the populous and well-known commercial capital of Kiang-su, but a namesake of somewhat less wealth and splendor. Several other larger towns are found after passing Suchow-fu, but they are not at present of any commercial importance. Between Suchow-fu and Chungking the river winds between mountain ranges; thence it flows easterly till it reaches the Yellow Sea, a distance of over 1,500 miles, and although at the present time steamers proceed no further than Ichang, a distance of 983 miles from Shanghai, there can be no doubt that in a few years specially constructed steamers will be able to reach Suchow-fu and far beyond. For some distance above Chungking, where shingle beds are found, the deposits are washed for gold, and though this is done on a small scale at present, the opening of the country will lead to further development. Lime and coal are also found in large quantities close to the river, but the present primitive methods of working yield no results commensurate to the mineral wealth which no doubt will be discovered in the near future.

The first treaty port on the head waters is Chungking, 1,250 miles from Shanghai, which was declared an open port in March, 1891, and may be called from its importance the western capital of China. Steam navigation with that port is possible with steamers specially constructed after the American pattern, with stern wheels of great propelling power, light draft, and good cargo and passenger accommodations. An attempt was made shortly after the opening of the port by an enterprising business firm to accomplish the task. A steamer was built of the stern-wheel type, and made her way to Ichang without difficulty. Then the trouble commenced. With characteristic stubbornness, the Chinese offered objections at every point until the question was finally settled by an agreement that no foreign steam vessels were to go beyond Ichang until Chinese steamers had first taken advantage of the privilege, and that stipulation, of course, as every one foresaw, put a most effectual stop to any further advance for the time. The treaty of commerce lately concluded between Japan and China appears to have placed the subject of steam navigation of inland waters on a sounder footing, and we shall probably soon hear of renewed and successful efforts to reach Chungking by steamer. The trade of the port is greatly increasing and the late war does not seem to have had any effect in checking the advance, no doubt owing to the distance from the scene of operations.

The local value of imports in 1894 was 5,376,953 haikwan taels,* and of exports 5,686,912 haikwan taels, a total increase of 2,000,000 haikwan taels over 1893. For 1895 the figures are: Total imports, 6,376,145 haikwan taels; total exports, 7,264,204 haikwan taels, or an increase of 23 per cent over 1894. The export of native opium is the item in which the greatest increase has taken place, the value of that drug exported rising from 530,939 haikwan taels in 1893 to 1,582,707 haikwan taels in 1894 and to 2,900,000 haikwan taels in 1895. No less than 11,779 piculs (picul=133⅓ pounds) were exported in the latter year, and as there appears to be practically no limit to the production, this increase will probably continue from year to year until the foreign opium is driven wholly out of the market.

The whole of this trade is carried on in junks, Chinese owned and chartered by foreign firms, of which the latter have by far the greater share; but the difficulties of navigation must always render precarious the transit by water from Chungking to Ichang and vice versa. Below Chungking are the Yangtze Gorges—those dangerous rapids so graphically described in Mr. Archibald Little's book, Through the Yangtze Gorges—which have to be passed by the junks, both inward and outward bound. The outward journey to Ichang is made in from seven to nine days, but the inward journey to Chungking occupies anywhere from fifteen to thirty days, according to the state of the river and the number of accidents. Steam navigation will minimize the danger, but the risks will always be great. The state of the river in summer is a very serious consideration, owing to the numerous sudden rises caused by freshets, how serious may be seen from the fact that at Ichang, from the 27th to the 30th of July, 1895, the water rose from 21 feet to 81 feet and subsided as rapidly during the next four days, and in one day in the middle of August of the same year it rose again from 35 feet to 75 feet and subsided again as quickly. Numbers of junks are wrecked every year on the countless rocks obstructing the river bed, and the delay and loss of cargo, and very often the loss of life of passengers and boatmen, make up a formidable list of calamities.

---

* A haikwan tael was worth 78 cents on January 1, 1897.

After braving all the dangers of navigation, the traveler at last arrives at that haven of rest, Ichang, in the province of Hupeh.

The port of Ichang was opened in 1877 in the belief that it would become an important place of transshipment. It is situated 983 miles from the mouth of the Yangtze and about 12 miles below the gorges. The volume of business has increased enormously since its opening. It is the final port of destination for steamers. There are three companies running vessels locally between Hankow and Ichang. The gross value of the trade in 1895 was 2,682,268 haikwan taels over the previous year. All exports from Chungking are carried to Ichang in foreign-chartered and native-owned junks, which, on their return journey, carry the Ichang imports to Chungking, and so long as there is no direct steam navigation above Ichang, this state of things will continue. It was anticipated that the opening of the new port of Shahsi would make an appreciable difference in the volume of transshipment trade, but the Ichang customs and traders do not appear to entertain any serious fear of competition. It is only reasonable to suppose that shippers would prefer to avail themselves of the direct steamer communication with Ichang rather than break the journey, with all the consequent loss of time and increase of trouble and expense, by transshipping goods destined for the western markets into junks at Shahsi.

Large "godowns" have been built at Ichang for the storage of goods in transit, and the increase in trade has caused a corresponding increase in the number of junks and expert trackers employed, and the latter especially have to be reckoned with, both in the matter of steam navigation above and transshipment of cargo below Ichang. It is from these men, in fact, that the most serious and determined opposition may be expected in the matter of steam navigation, since that would deprive them entirely of what is at present a remunerative but dangerous employment. In the case of transshipment, any junks arriving at Ichang from below have to change crews at that port—a serious item of expense for shippers—and from present appearances the chances of a continuance of existing arrangements are decidedly in favor of Ichang. The actual import and export trade of Ichang is comparatively small, but is increasing from year to year. The net imports in 1895 amounted in value to 1,017,297 haikwan taels, an increase of 71,000 haikwan taels over 1894; and the value of the exports was 525,057 haikwan taels, or 175,000 haikwan taels more than 1894. Opium is largely cultivated in the province north of Ichang, but the greater part of this finds its way to Shahsi by inland waterways.

Great hopes are entertained of eventually being able to work profitably the extensive coal fields found near Chang Yang and Pa-tung, in Hupeh province, and a commission of French experts visited the former in the autumn of 1895 under the auspices of the viceroy, but the coal so far brought to the port has been found unsuitable for steamer use, though that from Pa-tung is said to be an excellent house coal.

The great river, after passing through the gorges, assumes something of that placid appearance which is one of its principal characteristics during the remaining part of its course to the sea. The current is still swift, but good anchorage is found at Ichang, and except during the freshets in summer, both steamers and junks lie there in perfect safety. It happens sometimes that the tremendous rush of water through the gorges during a strong freshet in summer has not time to subside before reaching Ichang, and on such occasions there is a rise of 20 to 30 feet in as many hours, as was the case once in 1894 and twice in 1895; but the floods subside as quickly, and owing to the greater width of the river, it involves little danger to navigation so far as the larger craft are concerned. Below Ichang the river broadens considerably in consequence of the physical conformation of the country on both sides, and though there is always in summer a deep fairway channel, navigation becomes somewhat unpleasant (though never dangerous) when the river falls and reaches its lowest level from November to March. On account of the sluggish current and enormous quantity of silt emptied into the Yangtze from the numberless small rivers and creeks on both sides, there are many shifting sand banks formed in the river bed, especially near the entrance to the great Tung Ting Lake, and it is often necessary for the local steamers to put out boats and sound the fairway, the steamer following slowly in their wake till the shallows are passed.

From the city of Tung-tsu onward, the country lies to a great extent below the bed of the river, and it is only by enormous embankments that the floods can be kept under control and prevented from submerging the land for miles on both sides. This does happen occasionally, and the loss of property and consequent distress are serious. With characteristic carelessness, the embankments are in many places neglected and gradually succumb to the action of the river, so that a slight freshet will cause the most disastrous results

The trend of the river from Tung-tsu is southeast to the entrance of the Tung Ting Lake, and thence northeast to Hankow, and in the angle formed by these three points the lowest part of the land is situated. It is intersected with rivers, creeks, and canals, and a number of large, shallow lakes, all scattered in different parts of the triangle, some of considerable size. They drain the immense area of the province of Hupeh and empty their muddy waters into the Yangtze, chiefly between Yochow and Hankow, adding enormously to the bulk of the mighty stream. The general width of the river below Ichang is 800 to 900 yards, but when it is joined by its greatest affluent, the outlet of Tung Ting Lake, its width is increased twofold and it assumes grand and imposing proportions. The volume of water carried to the sea may be estimated when it is stated that immediately above Tung Ting Lake, where it is less than half the size it eventually assumes, the average volume is 500,000 cubic feet per second.

The next port reached after passing Ichang is Shahsi, situated on the left bank about 90 miles below Ichang, and near the entrance to a canal or creek which connects the river with the Tung Ting Lake. The port was opened to trade by the treaty of commerce recently concluded between China and Japan and business was commenced by the imperial maritime customs on the 1st of November, 1896. No statistics are yet available as to the trade done at the port, but it always has been very considerable. Much of the products of the province of Hupeh find their way to Shahsi by inland waterways, for which every facility is offered by the numerous canals and creeks, opium being the great staple of export, and the junk trade is very large. Goods are transshipped here from junks to river steamers, and so far as that trade is concerned it will no doubt develop with increase in production.

The course of the river below Shahsi is tortuous. Shallows and shifting sand banks cause the greatest annoyance, and often, in winter, much trouble and delay. From Sunday Island to Kin-ho-kou, steamers have often been detained for days and weeks until a sudden rise in the river gave them freedom.

The great Tung Ting Lake, the largest sheet of fresh water in China, is now reached on approaching the city of Yochow. All the vast accumulation of waters in the province of Hunan and even tributaries from distant Kweichow and Kwang-si help to swell the volume of this inland lake. Several populous cities and towns are found on its banks and a large junk trade is done. The capital of Hunan, Chang Sha, situated on the Siang River, which empties into the Tung Ting Lake, can easily be reached by steamers of light draft, and almost every point on the lake and many of the rivers which empty into it may be navigated by such steamers with perfect safety during at least nine months of the year.

The route of the ill-fated Margary, on his journey up the Yangtze and through Hunan and Kweichow to the northwest frontier of India, lay through the Tung Ting Lake and up the Yuen River—its largest tributary, rising in far Kweichow. The districts in which most of the tea for the Hankow market is produced are situated around this lake, chiefly to the southward and westward, and in direct communication with it, by which means the tea can be carried to the great central tea market at Hankow with little trouble and a minimum of expense.

In the long range of hills extending from the southern point of the Tung Ting Lake to the northern borders of Kweichow, anthracite coal of good quality is found in large quantities, and the greater part of it finds its way via the Tung Ting Lake to Hankow.

The city of Yochow-fu, a large and important trading place, is situated at the northeast curve of this vast sheet of water, at a point where it narrows at its outflow into the Yangtze. Henceforward, the volume of the river is immensely increased, its banks open to twice their former width and the turgid waters roll sluggishly in an almost direct northeast course toward Hankow. A number of creeks and small rivers join the Yangtze in this part of its course. Several lakes of considerable size are in close proximity to the river, into which they overflow. Just above Hankow, the river is joined by the Han, one of its largest tributaries. The latter rises in the southwest portion of the province of Shensi, and after traversing that province in an easterly direction, it enters the province of Hupeh and flows through the center of this province in a southeasterly direction until it mingles its waters with those of the Yangtze immediately above Hankow. Many towns of more or less importance are situated on this river, whose waters carry to Hankow all the produce of this rich province.

Heavy rains and the melting of the snows in the mountains of Hupeh and Honan, through which the Han and its tributaries flow, are the causes of frequent and serious floods. One of the worst occurred in the early summer of this year after a long rainy season. The news of the rising of the water is carried by fleet couriers, so that craft on the river and people living near its banks usually receive warning in time, but sometimes great loss of life and destruction of property result. It is not often that the floods reach Hankow with serious consequences to the town or neighborhood, but the signs of the destruction wrought higher up the Han are swept past the town in the shape of dead bodies of men and animals and the wrecks of boats and houses. The Han River is navigable for its greater part, and steam launches with strings of boats in tow ascend the river at nearly all times of the year without difficulty. The mouth of the river at its junction with the Yangtze is narrow and canal like in appearance and the current is swift, especially when the river is high. On the left bank of the Han, at its junction with the Yangtze, 600 miles from the mouth of the latter, is situated Hankow.

This port was opened to foreign trade in 1861 and has justified the expectations formed by the early settlers as to its future. Its position in nearly the center of the Empire and its direct connection by water with the remotest provinces have combined to increase its wealth and prosperity. The railway facilities which are contemplated will, when undertaken, doubtless lead to still further developments. Around the port, on both sides of the river, stretch low-lying, flat lands, and during the summer months, it is not an unusual occurrence for the town to be flooded to a depth of 2 or 3 feet. Locomotion on such occasions is only possible by boats and sampans.

The front road, or bund, is half a mile in length and is a fine piece of workmanship in stone, 40 feet or more above the winter level of the river. The paved slope of the bunding is provided with several flights of stone steps giving access to the river at any time. Hulks are moored off the bund and connected with it by means of landing stages for the accommodation of river steamers plying regularly between Hankow, Shanghai, and Ichang.

From the date of the opening of Hankow to foreign trade, it has been the principal market in China for tea. To the production of the plant in the surrounding districts this port owes its wealth and importance. The black teas of Hupeh and Honan and the green teas of Anhui and Kiang-si all find their way to Hankow, whence, in May (the tea season), they are shipped to Europe and America. In the year 1896, there were shipped from Hankow to England and America, 238,000 chests of tea; to Russia, 603,212 chests. That the prosperity of Hankow is not altogether dependent on tea is shown by the customs returns for 1895. The other native products exported are silk, oil, tallow, tobacco, wax, opium, hides, and flax.

The net value of the imports in that year is given as 17,765,391 haikwan taels ($14,077,732) and the exports as 29,256,745 haikwan taels ($23,727,227), which shows a gross increase over the corresponding figures of 1894 of 5,372,709 haikwan taels ($4,357,267).

One of the principal industries of Hankow is the manufacture of brick and tablet tea, so called from the forms in which it is molded and which greatly facilitate its transportation. Three Russian firms have established factories, two for the manufacture of brick tea and one for the manufacture of tablet tea. These are made from the dust of the various teas accumulated in the handling, manipulating, and packing of the general lot, and are shipped to Russia, where, on account of their cheapness, they find a ready sale among the soldiers and peasantry. They are sent by steamer to Tientsin, thence by camel trains throughout the interior of Manchuria, Siberia, and Russia. Eighteen million pounds of these teas were carried by this route during the present year (1896). Large Russian steamers ascend the river in the tea season, load with the superior qualities of tea and carry them direct to Odessa.

Wuchang, a large Chinese city, the capital of Hupeh, lies on the right bank of the Yangtze, opposite Hankow. The viceroy of the two Hu provinces resides in this city. A Government mint is established here with foreign machinery and under foreign management, where silver dollars, 20-cent, 10-cent, and 5-cent pieces are coined, excellent in design and workmanship. These dollars are far superior in appearance to the Mexican coin and have an extensive circulation, but the Mexican dollar has become so well known among the people that the new one is accepted only at a discount of 5 per cent. A large cotton mill has also been started at Wuchang under foreign management.

At Han Yang, on the right bank of the Han River, within a mile or two of Hankow, large steel and iron works have been established to work the iron found in the neighborhood.

The Yangtze at Hankow is subject to considerable fluctuation in the depth of water during the summer months. The range of rise and fall averages about 45 feet. The strength of the current varies from 3 knots in winter to 6 knots in summer, and during the latter season is occasionally dangerous to small craft. Below Hankow, for 20 miles or more, the river passes through extensive districts of level land intersected by many creeks. Large villages are dotted about on what are evidently artificial embankments of unknown antiquity. From the deck of a steamer, the prospect is one of profound and tranquil loveliness, as of a land whose teeming population has suddenly vanished. Outside of the villages, few people are seen; no busy life appears, no laborers in the fields, no travelers on the shore. The current of the river is sluggish through these lowlands, in keeping with the tranquility of the scene. Here and there, a small island breaks the monotony of the view, and at long intervals of distance, a solitary fisherman may be seen, slowly lifting his wide and empty net. It impresses one as part of an old world, deserted and forgotten.

The Yangtze, on account of its great length, its floods, its rapid rise and fall, and immense deposits of silt, the frequent formation, shifting, and disappearance of sand banks, according to the season, is somewhat difficult to navigate. Pilots are required whose knowledge of the channel in all its changing conditions enables them to cope with the caprices of the river. It is worthy of remark, however, that in spite of all its vagaries, the river never silts up sufficiently at any one point to cause a suspension of steamer traffic, and it is only in the winter months that there is any trouble. From March to November, vessels of the deepest draft may be taken to Hankow in perfect safety.

Thirty or 40 miles below Hankow, the scene suddenly changes. A bold range of hills, called the Pih Lin Shan, 400 feet in height, appears on the southern bank. A large island is passed, near which is a rugged group of rocks bearing the odd name of the Six Chickens. The river is now only about 500 yards across and the current is strong and swift. Then there occurs a great horseshoe bend near what are known as Wills and Grosvenor islands, both of which owe their origin, it is thought, to the low level of the surrounding country, which causes the river to spread its waters over an immense area and by the slow process of deposition of silt, form these islands and divide the waters into two or more deep channels. When these channels again unite at the foot of a small cluster of hills, the course of the stream is again due south till it reaches the Su Shan, or West Hills, which are quite 400 feet above the level of the river. Here, it is deflected east and flows through a more cultivated and populous country, with a number of large villages on its banks and a lake or two in close proximity. One of these is connected with the river by a canal, and there is some appearance of former prosperity in the ruins of a high pagoda and of a once formidable fort.

Wong Shan, opposite a large island, 56 miles from Hankow, is a town of some importance, from its passenger and other traffic, and Wong Shi Kau, another large town several miles below, is the outlet to a coal mine in the interior, with which a short railroad line connects and where the traveler is unexpectedly confronted, to his great surprise, with a locomotive and a coal train standing on the bank. The coal is carried from this place to Hankow by lorchas for use at the mint at Wuchang and the iron works at Hang Yang. A picturesque object, some 90 miles below Hankow, is a bold bluff, called Cock's Head, which rises 150 feet above the level of the river and is a conspicuous landmark for miles around.

Another place of a similar nature further down is Split Hill, near a large creek which connects with another extensive coal mine some 20 miles in the interior. The mine, it is said, produces excellent coal and is capable of much greater extension and production. Beyond this, almost unbroken chains of hills stretch on both sides of the river, rising occasionally to an altitude of 900 feet. No stretches of low country occur until the important town of Wusueh is reached. The country here is very populous and highly cultivated. The junk and lorcha traffic at Wusueh is so large that a station of the maritime customs is established at the town. It is a busy place, where all steamers land and embark passengers.

On nearing Kiukiang, there comes into view the fine and rugged range of the Kinshan Mountains, rising to a height of upwards of 4,000 feet, some 10 miles south of Kiukiang. Recently, a large area of uncultivated land on these hills, at an altitude of 3,000 feet above the level of the river, has been purchased by foreigners and parceled out into building lots. This is to be a resort where the foreign residents at the river ports may escape the intense heat of summer and enjoy the fresh air and the fine scenery of the mountains.

The port of Kiukiang is situated on the south bank of the Yangtze, 450 miles from Shanghai, and close to the prefectural city of the same name. This site was selected on account of its proximity to the extensive tea-growing districts with which it is in direct communication by way of Poyang Lake and its numerous tributary streams.

The total value of the imports at Kiukiang in the year 1895 was 5,199,355 haikwan taels ($4,216,677), and of exports, 10,466,912 haikwan taels ($8,488,656), and these figures show a marked improvement over those of the previous year. Tea is the staple export. A large factory, under Russian management, is established here for the manufacture of tablet tea, which finds a market in Russia.

A few miles below Kiukiang, the Poyang Lake empties its clear, fresh waters into the yellow, muddy stream of the Yangtze. I entered this lake a year or more ago on board the U. S. S. *Detroit.* The unheralded appearance of an American man-of-war in these unfamiliar waters caused some excitement and more consternation among the primitive dwellers on its shores. I have no data as to the dimensions of this lake, but it is a very large one, receiving as it does the drainage of the whole province of Kiang-si. At its entrance there is a pretense of fortification, and near it a massive rock rises 250 feet, crowned with a graceful pagoda. In the lake appears a tall, conical, rocky islet, with kiosks and shrines clinging to its precipitous sides. Some 80 or 90 miles further up is located the busy town of Kin-tê Chên, where, for centuries, the finest porcelain in China has been produced. It finds a market at Kiukiang, and is universally known by this name. The potteries are extensive and employ over a thousand workmen continually.

One of the great routes from Peking to Canton was formerly through this lake and the Kan River, which, running from the mountains on the frontier of Kwong Tung, joins the lake at its extreme southern limit and makes a continuous waterway throughout the whole route. The black-tea districts lie mostly to the southeast of the lake and are reached by means of small canals. All this region is highly cultivated, thickly inhabited, and moderately prosperous. Its varied products find their way to the Yangtze and add to its mighty volume of traffic.

Below Kiukiang and Poyang Lake, the country becomes low and flat on the north side of the river, and despite the embankments, is subject to frequent inundations during the summer months. Notwithstanding the apparently unfavorable conditions for agriculture, the population is dense, and every portion of the land is under tillage. As the steamer passes these monotonous flats, there suddenly comes into view in the middle of the current a singularly shaped rock 300 feet high, with miniature and apparently inaccessible pavilions and temples upon its sides, and upon its very summit an airy pagoda. This is the Little Orphan, so called, no doubt, from its utter isolation. Eighty odd miles below Kiukiang, on the north bank, is Ngankin, the capital of the province of Anhui, a populous and busy city, with a very large junk trade. A hulk is moored off the city for the convenience of steamer traffic. The city walls, extending a distance of about 2 miles east and west, come close to the shore, and on the very water's edge and visible a long way off stands a graceful pagoda, famous in legend and perhaps the most beautiful building of its kind in China.

The appearance of the country here and for many miles below is diversified by detached groups of hills and a mountain range is visible in the distance, rising some 3,000 feet above the plains, which are said to be rich in coal and other minerals not yet exploited. The river spreads more or less over the level lands on the right, and at some places is at least 4 miles wide. A lake—Muken by name—appears on the south side, a fine sheet of water connected with the river by a wide creek, which seems to be a rendezvous for all sorts of small craft. Below this, 133 miles from Kiukiang and a mile inland, is the important town of Tatung. The green-tea districts of the province of Anhui are situated about 25 miles in the interior, south of the town, and this adds to the commerce of the town, which has, in addition, a large salt trade. Innumerable junks are anchored here, and do a large business. At Barker Island, 177 miles below Kiukiang and distant 300 miles from the delta of the river, the first effect of the incoming tide from the sea is felt. The daily rise and fall at springtide, in December, is only 6 inches, but is quite perceptible and sufficient to retard the current in the river channel.

Wuhu, 197 miles from Kiukiang and 240 miles from Woosung, on the right bank, is the next treaty port. It was opened to foreign trade by the Chefoo convention on April 1, 1877. The native city lies at a distance of 1 mile and is connected with it by a wide creek. It is a town of considerable importance, and is in direct water communication with the interior of the province of Anhui, the green-tea districts of Ning Kwoh and Taiping, the silk districts of Nanling, and other centers of production. The produce of the coal mines at Chih Chow and Wild Boar Hills is chiefly carried to Wuhu, whence it is exported to Chinkiang and Shanghai. The export of coal in 1895 was 3,857 tons. During the winter months, water fowl, pheasants, woodcock, snipe, and other game abound in the neighborhood, and it is a favorite resort for shooting. According to the trade returns for 1895, the net imports at the port amounted to 5,599,055 haikwan taels ($4,540,-834) and the exports to 2,673,925 haikwan taels ($2,168,553). It is conveniently situated for the export of the immense quantities of grain, rice, and other cereals from the extensive and highly cultivated districts of Anhui and Kiang-su. A large number of steamers, mostly British, call at Wuhu in ballast and load with grain, peanuts, etc., for the southern coast cities.

During the year 1894, 3,142,873 piculs of rice were exported from Wuhu to the southern seaboard cities, many British and other steamers being engaged in this service. The outbreak of the war with Japan put a stop to this trade, as the export of all grain was prohibited. The prohibition was removed in November, 1895, but the rice shipments were transferred to Chinkiang for the most part, and have so continued. The receipts of American kerosene oil at this port decreased in 1895 to 614,490 gallons, from 810,256 gallons in 1894, and the Russian article advanced from 80,495 gallons in 1894 to 192,053 gallons in 1895; but this loss seems to have been more than recovered in the first three quarters of the year 1896, as the receipts of American oil during that period were no less than 1,089,410 gallons. Russian oil was imported during the same period to the amount of 378,100 gallons, most of it in bulk, by tank steamers. The strong and deep current at this place renders it difficult for boats to make their way to and fro from steamers lying in the stream.

From Wuhu, the river pursues an almost due north course for a long distance. The only elevations in the large expanse of otherwise low and level country are two curious, towering rocks, called the East and West Pillars, rising abruptly from the banks on each side of the river, about 250 feet high, and looking like gigantic sentinels. Below these, on the south bank, is the ancient city of Nanking, 194 miles from Shanghai. Although not yet an open port, it is mentioned in the French treaty of 1858 as one of the ports on the Yangtze to be opened to foreign trade, and its opening may be claimed, as a matter of right, at any time. Except the high walls, little of the city can be seen from the river.

Nanking was once the imperial capital and the most famous city of the Empire, on account of its extent, its population, its wealth, and the number and elegance of its palaces and temples. To its Tartar conquerors is attributed the destruction of the imperial palaces, and even the imperial sepulchers. Though no longer the capital and fallen into decay, it is still a great and interesting city. Its walls are 35 miles in circumference. Nanking is celebrated at the present day for its manufactures of silk, crape, and velvet, and of a cotton cloth which many years ago was popular with the youth of the United States, known as "nankeen." India ink is also manufactured there in great quantities, together with a beautiful, thin, pithy paper, called rice paper. It has also some reputation for its fine porcelain ware. The viceroy who governs this and the two adjoining provinces of Anhui and Kiang-si has his official residence and viceregal court at Nanking.

Below Nanking, the river has narrowed to a width of not over half a mile. Its course is now northeast, the current is swift, and the channel deep. There are rocky bluffs on each side; on the north, some 5 miles away, a pagoda is seen crowning a hill 500 or 600 feet high—a prominent landmark for a long distance around. From this point, the course of the river is due east. Shih-êrh-hui, 25 miles from Nanking, on the left bank, is an important salt station. A vast fleet of junks engaged in the salt trade is constantly anchored here. There is also a customs station and a cantonment of soldiers to keep the turbulent junk men in order. It is altogether an important and busy place. Just below this, the Grand Canal of China joins the Yangtze, 1½ miles above Chinkiang.

Twelve miles up the canal, on its left bank, is situated the old city of Yangchow. Its walls, built of stone and brick, 20 feet wide and 40 feet high, are in good preservation. The city is alleged by tradition to have been founded in the Hia dynasty, 2205 B. C., and is one of the most famous of the great cities of China. Like all of the cities in the region of the Yangtze, it suffered much in the Taiping rebellion, but has nearly recovered its former prosperity. The celebrated Venetian voyager, Marco Polo, relates in his wonderful book of travels that the great Kublai Khan appointed him to be governor of this city and that he resided here three years. This was A. D. 1282. His description of the city is meager, like most of his descriptions, but what there is of it can be recognized, and local tradition quite upholds the narrative of the traveler. It now has a population of between 600,000 and 700,000 souls and is the residence of many wealthy mandarins and retired officials, and is regarded by all China as a pleasure city. It has always been noted for its beautiful women and furnishes concubines to the nobles and gentry of China.

The Grand Canal, running north and south from Peking to Chinkiang, was constructed by Kublai Khan in 1289, and has been maintained in good condition to the present day. The produce of the immense alluvial plains of Shantung and Kiang-su, north of the river, is collected at Yangchow and shipped in junks, by the canal, to Chinkiang for export.

Chinkiang is situated on high ground on the south bank of the Yangtze, almost opposite the entrance of the Grand Canal. It occupies a position which leaves nothing to be desired on the score of commercial and strategic importance. It is in direct communication with the Pacific Ocean by the river, which in its remaining course is navigable without risk at all seasons by the largest ships afloat, and is distant from the ocean only 154 miles. It is the first open port on the river, and, by means of the canal and other important waterways, is in close communication with all parts of the province of Kiang-su and the northern part of the Empire, and therefore the great collecting center for export of all the rich products of that vast area, and for imports the distributing point to 121,000,000 people.

The total imports in 1895 were 17,956,522 haikwan taels ($14,562,739), of which 12,622,423 haikwan taels ($10,236,785) represented foreign imports and the balance, or 5,334,099 haikwan taels ($4,325,954), the value of native imports. The exports in 1895 were valued at 13,574,678 haikwan taels ($11,009,064). These figures, when compared with 1894, show an increase of 2,800,000 haikwan taels ($2,270,800) in imports and no less than 8,800,000 haikwan taels ($7,136,800) in exports. The export of rice for the year 1895 was 4,182,081 piculs (1 picul=133⅓ pounds). The trade of the port has improved decidedly. Taking three items of American imports only—drills, sheetings, and kerosene oil—the figures for the first three quarters of 1895 and 1896 are, respectively: Drills, 33,085 pieces and 33,180 pieces; sheetings, 4,145 pieces and 4,510 pieces; kerosene oil, 1,672,590 gallons and 1,929,400 gallons.

The city is walled and spreads over a large tract of ground. The walls are brick, crenelated, and about 30 feet high; the parapets are pierced for small arms. Without the walls and stretching from them to the river is another city, or, more properly speaking, a large and populous suburb. The population of the city is estimated at 250,000. Along the river front, about a mile in length and four blocks deep, is the British concession, where the foreigners reside and conduct their business. The British and American consulates are just outside the concession. The city is of great antiquity, and has had its vicissitudes of wars and sieges, has been sacked and burned, and several times rebuilt. Its position at the great bend of the river is an important one from a commercial, and especially from a military, point of view. The name signifies River Guard. Its forts command the river approaches and defend the entrance to the Grand Canal.

Chinkiang is the best situated port on the river. Behind it, the country rises into broken ranges of picturesque hills, which further back assume almost the dignity of mountains. There are wooded slopes and well-cultivated valleys. There are several ancient temples located in the midst of fine groves on the tops of the highest hills. Just below the city and midway in the stream is the historic Silver Island, while close to the shore above the city rises the rocky eminence known as Golden Island, crowned with a gray old pagoda which has stood the storms of a thousand winters.

During the war with Japan, several forts were erected in this vicinity. Where Silver Island divides the channel, 2½ miles below the foreign settlement, three batteries of heavy guns were placed, one on the island, one on the bluff on the right bank, and the other on the low grounds of the left bank. These forts command an immense sweep of the river. Twenty miles lower, on the right bank, is Chu Shan Kwan, another commanding position where strong forts were built. At this point, there is a fierce current and soundings range up to 25 fathoms. The river below Silver Island spreads and divides into several branches, intersecting a group of islands that are thickly inhabited and well cultivated, but subject to frequent inundations during the summer months. The banks on either side are low and the width of the river is in places fully 4 miles, the course being due east.

At Kiang-yin, 60 miles below Chinkiang, the river narrows to less than 1 mile, with very deep water. The town is on the right bank, on rising ground, a mile distant, and between it and the river are high hills, whose steep sides touch the water. They are very strongly fortified and not inaptly termed the Gibraltar of the Yangtze. Every eminence is surmounted by 12-inch breech-loading guns, capable of throwing shells to every point from which an enemy might advance; additional batteries of 10 and 6 inch guns are planted in commanding positions, protected by earthworks, all of which present a very formidable appearance. There is a passenger station at this place where steamers land and embark passengers, native boats for this purpose being in waiting. From Kiang-yin eastward, the river flows through low and level land and attains a width of from 2 to 6 miles.

At Tungchow, 25 miles further down, the last passenger station is reached, and close to this is North Tree. A large buoy, moored in the fairway here, marks the beginning of the Lang Shan Crossing—that portion of the river dreaded by passengers and pilots, as navigation after dark of this intricate network of shoals and sand banks is utterly out of the question. All vessels bound downstream anchor off North Tree to await daylight, and upward-bound craft time their departure from Woosung so that the passage can be made in daylight. Fogs are of frequent occurrence near the mouth of the river during winter, and on the approach of a fog everything afloat has to drop anchor and wait patiently till the weather clears. The channel is marked by buoys, which can easily be seen on a clear day, but absolutely nothing has been done to make navigation possible during the night. Only the steamer companies and customers know what loss of money and valuable time is annually incurred by the utterly defective marking of this important waterway, traversed by upwards of 1,000,000 tons of shipping during the year. Nothing could be easier or simpler than to place an adequate number of buoys from Woosung to North Tree, and to light at least those at the critical points with electricity. Navigation at all times, except during fogs, would then be perfectly safe.

Some distance from the Lang Shan Crossing, Tsung Ming, or West Island, as it is commonly called, divides the river into two branches. The northern (2 miles wide) is used by ships bound for northern ports—Chefoo, Tientsin, etc. The southern or main branch, the fairway channel of which is from 1 to 2 miles wide, runs in a straight southeast course to Woosung, with a depth of from 6 to 10 fathoms. The island extends northwest to southeast a length of 30 miles, with an almost uniform width of 6 miles. It is low and marshy, with a dense and industrious population, but subject to inundation from the river and to the inroads of the ocean, to which it is exposed on its eastern side. The river at Tsung Ming varies from 4 miles near the north end to 8 miles opposite Woosung. Woosung is at the entrance of the Huang-pu River, which connects Shanghai with the Yangtze and the sea. A series of strong and heavily armed forts are erected here. The approaches to the Yangtze are well lighted. At Gutzlaff, an island just off the coast, there is a conspicuous light at an altitude of 270 feet and a telegraph station from which arriving steamers are signaled. Two light ships, the *Tungshaw* and *Kintoan*, at proper distances, mark the course of incoming steamers. Here the Yangtze, after its long journey from the mountains of Thibet, adds its tribute to the sea.

The names of rivers, towns, etc., in China are descriptive, as, for instance, Hoang-Ho, or Yellow River, from its muddy waters. I can find nothing, however, from which to derive the name of Yangtze, except the local opinion, entertained mostly by the literati, that it comes from the city of Yangchow (now 12 miles inland), whose walls were formerly, it is said, washed by its waters. If this be correct, its course has undergone a remarkable, but not unparalleled, change during the last few centuries. From Chungking to the sea, it is familiarly known to the people by the proud name of the Great River.

The Hoang-Ho and the Yangtze, emptying into the ocean their united and mighty volumes of muddy water, has given rise to the name of the Yellow Sea. In the north, the discoloration extends across to the Korean coast, and from the mouth of the Yangtze more than 100 miles toward the coast of Japan. The Yangtze Kiang, flowing almost directly east from Hankow to the sea, may be said to divide the Empire north and south into nearly two equal parts. All strangers coming to China are at once impressed by the magnitude and majesty of this river.

Steam navigation of the Yangtze was opened to foreigners in 1856–57. Owing to the Taiping rebels holding the principal cities and towns on the river, there was little development of business up to 1864. In this year, Nanking was captured by the imperial troops and the disturbances, which had hitherto encumbered trade in the Yangtze Valley, came to an end. From this date, steamers have run regularly under American and British flags, the termini being Shanghai, in Kiang-su province, and Hankow, in Hupeh province, calling at the intermediate treaty ports of Chinkiang, Wuhu, and Kiukiang. They carry large cargoes as well as foreign and native passengers, all at very profitable rates. They also take native passengers to and from a number of intermediate towns; but these not being opened by treaty, they are not allowed to load or discharge cargo there.

From Hankow, there is an annual export of tea in ocean steamers, chiefly under the Russian flag, and from Wuhu and Chinkiang a continuous, large, and increasing transport of rice, wheat, and other cereals to the Kwong-tung province. These cargoes are carried by steamers under the British, German, Norwegian, and Chinese flags.

The river rates of freight are: From Chinkiang to Shanghai, 40 cents (Mexican) per ton of 40 cubic feet; from Chinkiang to Shanghai, 12 cents (Mexican) per picul of 133⅓ pounds; from Chinkiang to Hankow, 70 cents per ton; from Chinkiang to Hankow, 18 cents per picul. Passenger rates are: For foreigners to Shanghai (156 miles), $12 (Mexican); to Nanking (45 miles), $9 (Mexican); native passengers to Shanghai, $1.20; to Hankow (450 miles), $4.80. The above are barely one-tenth of the charges of the earlier navigation days, say up to 1867.

River navigation was inaugurated by the large American shipping houses of Augustin Heard & Co., Olyphant & Co., and Russell & Co., together with Dent & Co., and other British firms. Most of these firms were dissolved during the disastrous trade crisis of 1865–66 and their steamers were bought by Russell & Co., who, in 1867, founded the Shanghai Steam Navigation Company, with a large fleet of river and coast steamers under the American flag. This company quickly monopolized the whole river traffic, both for passengers and freight, and for ten years ran without competition.

In 1876, the China Merchants Steam Navigation Company, a native undertaking, appeared and secured a good deal of the freight traffic, and at this time, the Shanghai Steam Navigation Company was dissolved and its steamers sold to the native company, which has since continued running, with a short interval in 1884–85, when the Franco-Chinese war necessitated the temporary transfer to the firm of Russell & Co.; since then, the American flag has not been seen on merchant steamers on this river.

Steam navigation on the river is now practically in the hands of three companies, viz, the China Navigation Company (British), the Indo-China Steam Navigation Company (British), and the China Merchants Steam Navigation Company (Chinese). These maintain a daily service between Shanghai and Hankow. Steam connection is also maintained between the latter port and Ichang, the Chinese Government forbidding foreign steamers to run further up the river.

A few small steamers, all under the British flag, ply at irregular times between the river ports and Shanghai, but offer no effective opposition to the larger lines.

A good deal of freight is carried by semi-foreign sailing vessels, but under the Chinese flag, which are known as lorchas.

This river trade would be capable of indefinite development were certain restrictions imposed by the Chinese Government withdrawn and the whole of the ports thrown open to foreign intercouse. Full-power passenger steamers of light draft are wanted and could be run with profit.

To the most casual observer, it is quite evident that the resources of this mighty river and its affluents have been but slightly exploited. The riparian towns, once thrown open unreservedly to foreign commerce, and the blighting system of native customs exactions regulated and centralized, an enormous development of trade and steam traffic would ensue.

One can picture the Yangtze bearing numberless steam craft of every description laden with valuable products of foreign and native industry, their decks crowded with passengers from the teeming millions of the adjacent provinces; the cities on its banks densely populated and the people active, happy, and prosperous; foreign machinery and implements developing the unlimited resources of their fields and hills. Railways running north and south through the land will connect by means of steam ferries across the river; on the innumerable canals and inland waterways, the steam passenger boat will supplant the tardy and unsafe sampan; specially constructed fast passenger steamers running frequently during the day will carry their human freights; and, finally, the American flag will, it is to be hoped, once more be proudly and prominently displayed on this great waterway, from which it should never have withdrawn.

This prospect is but a logical result of freeing the Chinese people from their present burden of taxation and opening the whole country to foreign trade.

A. C. JONES,
Consul.

CHINKIANG, *January 5, 1897.*

NEW TAXES IN MOZAMBIQUE.

I have the honor to report that a new tariff of municipal taxes and licenses has just been proclaimed for Mozambique. Business houses are obliged to pay, in addition to the ordinary customs duties, taxes upon the gross value of their respective imports and exports as follows: Upon imports from Portuguese countries, 1 per cent; upon imports from foreign countries, 1½ per cent; upon exports, 1 per cent.

All persons exercising any trade or profession must pay annual license fees and the cost of the documents. A list of the principal license fees for this port and for Lourenço Marquez is annexed. My rate of exchange in compiling these fees is $1 = 1,000 reis, which I consider a fair average rate.

These taxes do not press very hard upon the Portuguese and natives of Mozambique, as very few of them, as I have explained in previous reports, exercise any trade or profession, the great majority being officeholders.

The foreign merchants, who do practically all the business of this province, are the people who have to pay, and they are very indignant. Many will have to take out six different licenses, as shown in the pro forma account annexed.

It will be noticed that many of the license fees at Lourenço Marquez are exorbitant; for instance, those of the bankers and the landing and shipping firms. The dealer in fresh water has to pay $200 for his license, while the dealer in Kaffir grog pays but $15. The fresh-water dealers are generally foreigners, but the grogshop keepers are usually Portuguese or half-breeds.

Partial tariff of first-class annual license fees at Mozambique and at Lourenço Marquez, Delagoa Bay.

Trade or profession.	Mozambique.	Lourenço Marquez.	Trade or profession.	Mozambique.	Lourenço Marquez.
Butcher	$40	$80	Landing, shipping, and lightering firm	$150	$3,600
Farmer	20	20	For each lighter	15	40
Agent or factor	80	150	Coal dealer	120	400
Printer	45	60	Editor	100	100
Lawyer	70	150	Hotel keeper	50	300
Fresh-water dealer	10	200	Doctor	40	150
Sugar maker	300	300	Liquor bar	40	50
Banker	100	1,000	Kaffir grogshop	10	15
Apothecary	50	250	Peddler and traveling merchant	60	80
Chief clerk	65	80			
Underclerk	25	60			
Boss carpenter	50	100			

Following is a pro forma account for municipal taxes and licenses of a business house doing a general importing and exporting and steamship-agency business at the port of Mozambique:

Table A.—Municipal taxes on imports and exports.

Imports, duty paid and fees, including 2,000 tons of coal (free), $25,000, at 1½ per cent	$375.00
Exports, 1,000 tons peanuts at $40 per ton, $40,000, at 1 per cent	400.00

Table B.—License fees.

For agent or factor	80.00
For chief clerk	65.00
To sell fresh water	10.00
To sell coal	120.00
To be agent for steamship line and to land and ship cargo	150.00
For 10 lighters at $15 each	150.00
Total	1,350.00

Table C.—Stamps and emoluments.

On Table A:		
Fee	$2.00	
Stamps	15.00	
On Table B:		
For six licenses	6.00	
Stamps, 5 per cent of $1,350	67.50	
		90.50
Total		1,440.50

W. Stanley Hollis,
Consul.

Mozambique, *January 8, 1897.*

BANKING SYSTEMS IN SWITZERLAND.

In view of the popular election to take place on the 28th of February, to decide the fate of a law which passed both houses of the Assembly last June for the formation of a Bank of the Confederation (Bundesbank), to be operated under the supervision of the Government, I beg to present a brief description of the existing banking system and of the proposed change.

THE PRESENT SYSTEM.

There are thirty-four note-issuing banks in Switzerland of four different classes, viz:

(1) Discounting banks, five in all, whose capital is supplied by the issue of shares of stock and whose operations are restricted. They can not loan money upon real estate securities, while all the others have this power.

(2) Cantonal banks, eighteen in all, whose capital is supplied by the cantonal governments under which they are operated, or by the issue of their bonds, guarantied by the cantonal governments.

(3) Mixed banks, whose capital is partly supplied by the cantonal governments and partly by the issue of shares of stock.

(4) Joint-stock banks, whose capital is supplied by the issue of shares of stock and whose operations are unrestricted.

These banks are operated under the federal law of March 8, 1881, which compels each to have a paid-up capital of not less than 500,000 francs ($96,500) and limits the maximum issue of their notes to double the amount of the shares of stock issued and the amount of capital supplied by the cantonal government. They are all subject to the supervision of the federal inspector, who is officially responsible for the observance of the law, to whom monthly and annual balance sheets are sent, as well as weekly statements, all of which are published in the Swiss Official Journal of Commerce.

Altogether, notes to the amount of 202,400,000 francs ($39,062,200) have been issued by these banks, of which an average of 197,300,000 francs ($38,078,900) have been in circulation, being about 67 francs ($12.93) per capita of the population.

Fifteen banks have reached their limit of circulation, three of which have a circulation of 24,000,000 francs ($4,632,000) each. The security for this circulation or issue of bank notes is legally provided for as follows: Forty per cent of the circulation must be covered by a reserve of coin (gold or silver) by all four of the above-mentioned classes of banks; 60 per cent of the circulation of the discounting banks is secured by available securities, such as time drafts, bills of exchange, readily convertible securities, etc.; 60 per cent of the circulation of the cantonal banks is secured by the guaranty of the various cantonal governments and by a sufficient amount of available securities; 60 per cent of the circulation of mixed banks is secured by the deposit of readily convertible bonds and other available securities; 60 per cent of the circulation of joint-stock banks is secured in the same manner as that of mixed banks. Available securities mentioned as security in part for the issue of bank notes must be federal, cantonal, or foreign state securities.

These banks conduct a general banking business, *i. e.*, they discount time drafts (promissory notes not being generally in use here); receive cash on deposit, subject to drafts by check, allowing interest from 1 to 3 per cent per annum on daily balances; loan money on collateral security, including valuables, such as precious stones and gold and silver plate; and act as agents for individuals and firms for the collection of debts and the payment of obligations. In the last twelve years, the average profit per annum made by these banks was a little over 10 per cent of their paid-up capital.

In addition to these, there are three hundred and sixty-eight private banks in Switzerland, operating under the "code fédéral des obligations" of January 1, 1893, which are responsible only to their creditors and their stockholders.

THE PROPOSED CHANGE OF SYSTEM.

The Bank of the Swiss Confederation, as proposed, is to be established at Berne, to be invested with the sole right to issue bank notes, to regulate the currency of the country, to supervise the fiduciary affairs of the several departments of the federal administration, to be the repository of all Government funds, and to be liable for all financial demands upon the Government. The Swiss Confederation will be responsible and liable for all the obligations and contracts of the bank and its branches, which it is authorized to establish in each canton of Switzerland.

The capital of the bank will be 25,000,000 francs ($4,825,000), divided into shares of 10,000 francs ($1,930) each, with the power to increase it to 50,000,000 francs ($9,650,000) by the action of the Federal Assembly. Two-fifths of these shares will be offered to the several cantons, twenty-two in all, respectively, at par, in proportion to their population, each having a right of participation in at least ten shares of the capital; the balance (three-fifths shares) will be retained by the Confederation, together with any shares that may not be taken by the cantons.

The Bank of the Confederation will have the right to acquire the control of existing banks and to continue them as branches, after changing their business to conform to its own; and in forming branches it will give preference to existing cantonal banks and to those guarantied by the cantons. The federal treasury will supply the capital, say 15,000,000 francs ($2,895,000), by the issue and sale of bonds, to be provided for hereafter, redeemable only at the option of the Government. The cantons supply the balance of the capital, say 10,000,000 francs ($1,930,000), from their respective treasuries. They can not, however, be liable for losses beyond the extent of their participation in the capital of the bank. No others are allowed to participate except on account of public funds, federal or cantonal.

The bank and its branches will be exempt from all taxes, but will be compelled to transact all financial business for and on account of the Government without charge for their services.

The operations of the bank and its branches will be limited to the following:

(1) Discounting drafts on Switzerland of not exceeding three months' time and bearing three good names.

(2) Purchase and sale of foreign bills of not more than three months' time and bearing two good names.

(3) Making cash advances on deposit of valuable securities for terms not exceeding three months, all shares of stock excluded.

(4) Purchasing for its own account the bonds and other obligations of the Confederation as well as those of the cantons and foreign states which are made payable to bearer and are readily convertible.

(5) Receiving cash deposits, subject to check drafts, with or without the payment of interest.

(6) Purchase and sale of gold and silver in any shape for its own account and that of others, and making cash advances on the same as security.

(7) Issuing gold and silver certificates under a law to be made to govern the same.

(8) Making transfers of cash, payment and collection of indebtedness for and on account of others.

(9) Undertaking the safe-keeping and management of securities and valuables.

The bank may issue bank notes up to a maximum to be decided by the Federal Assembly in the following amounts, viz, 50, 100, 500, and 1,000 francs ($9.65, $19.30, $96.50, and $193), and smaller amounts if found necessary, under the same authority. This issue will be secured by a deposit of at least one-third of the amount in gold and silver coin in the treasury or in gold and silver metal at current value, together with other valuable securities sufficient to cover the entire issue. The bank will be obliged to redeem its notes at par on presentation in exchange for coin, and all Government officials must accept these notes at par, but it is not compulsory for individuals to do so, unless in the event of war, when the Government may find it necessary to compel their acceptance at par by all. The accounts of the bank will be closed at the end of each year and the net profits appropriated as follows: (1) Twenty-five per cent will be reserved for and added to a reserve fund; (2) 3½ per cent interest will be paid to the Confederation and to the cantons upon the capital supplied by each, and in case the profits may not be sufficient at any time to make this payment, the deficit may be drawn from the reserve fund; (3) all additional profit will be divided among the cantons in proportion to their population.

The reserve fund can not be drawn upon for any other purpose except to reimburse the bank for losses. The bank will be obliged to publish weekly and annual statements of its assets and liabilities. The Federal Assembly will exercise a general supervision over the affairs of the bank, the administration of which will be under a bank council of twenty-five members, all to be Swiss citizens and to serve four years—fifteen to be selected by the federal council, two of whom will be appointed president and vice-president, respectively, and ten to be elected by the participating cantons. Local committees and directors will be appointed by the bank council, and as soon as the bank goes into operation its notes will be issued gradually and the issue of notes by other existing banks will be stopped and their outstanding issue called in at the rate of 10 per cent every three months, requiring two and a half years.

ARGUMENTS FOR AND AGAINST THE PROPOSED CHANGE.

As the time of the election approaches to decide whether or not the State bank is to be established, the general interest in the subject increases, and at present it is the chief topic of conversation and discussion in all quarters. There is strong opposition as well as strong support. The former seems to come mostly from the Antifederalists of the west and the Ultraconservative parties, both very influential, commercially as well as politically, who generally favor cantonal rights and advantages more than those of the Central Government, and who argue that it is contrary to the interests of the people and of the country for the Confederation to embark in the banking business.

The following are some of the reasons given: The administration would become too bureaucratic and political corruption would follow; the credit of the Government would be injuriously affected by engaging in commercial enterprises; in the event of war, a Government bank would be subject to sequestration and liable to plunder by the enemy, whereas private property would be respected; in this event, also, the present system of banks, established independently in all parts of the country, would be far more effective than a central State bank, with dependent branches.

The support of the Swiss Confederation Bank seems to be irrespective of party, with the exception of the socialistic element, which is growing rapidly in this country and which exerts a powerful influence on the affairs of the nation. This party regards the establishment of a State bank as the first step in the suppression of private capital. A large portion of the business community is dissatisfied with the lack of sufficient currency and the want of uniformity in the rate of interest charged, particularly in the agricultural districts, where they declare they are forced to pay unduly high rates. The stability or solvency of certain existing banks in case of severe financial depression is also distrusted; therefore a change is favored.

ETHELBERT WATTS,
Consul.

HORGEN, *February 4, 1897.*

AUSTRALIAN WOOL SALES AND MINT RETURNS.

The wool sales for the year 1896 closed December 24 and will be resumed January 6, 1897. The following table shows the quantity of wool sold in Victoria, according to destination. It should be borne in mind that only a rough estimate can be made. The table will give a good idea of the extent of the operations of the various divisions of the trade.

Destination of Victorian wool purchases from October 1 to December 31, 1896.

	Bales.
United States and Canada	35,000
Yorkshire and Scotland	110,000
France and Belgium	65,000
Germany, Austria, and Switzerland	48,000
Japan	1,000
Local manufacturers, scourers, and speculators	9,000
Total	268,000

In comparing these figures with those for former seasons, the most notable change is the great quantity bought for Yorkshire and the diminished quantity taken for Germany and for local scouring and speculation, especially the latter.

The following table shows the number of bales of wool sold in the Victorian market during the corresponding period (October 1 to December 31) for the previous fourteen years:

Year.	Offered.	Sold.	Increase in sales over previous years.	
	Bales.	*Bales.*	*Bales.*	*Per cent.*
1881	161,988	124,209		
1882	134,854	113,880		
1883	168,090	138,518	14,309	*11½
1884	199,354	159,297	20,779	15
1885	184,752	146,854		
1886	183,584	150,734	3,881	
1887	193,631	159,120	8,385	†16
1888	217,031	184,771	25,651	
1889	244,710	215,605	30,834	16⅔
1890	218,992	173,532		
1891	270,916	222,195	6,590	*3
1892	292,248	261,357	39,162	17½
1893	290,926	268,294	6,937	2½
1894	294,467	257,714		
1895	297,772	272,751	4,457	*1½
1896	293,413	267,664		

* Increase in two years. † Increase in four years.

The following, from the Sydney Wool and Produce Journal, are the official figures showing the business done in Sydney from July 1 to December 17, 1896, when the sales were suspended for the year:

Selling brokers.	Offered.	Sold.
	Bales.	*Bales.*
Goldsbrough, Mort & Co	43,026	37,606
Harrison, Jones & Devlin	41,362	39,527
Dalgety & Co	41,492	33,038
John Bridge	40,037	37,135
Winchcombe, Carson & Co	34,758	35,965
Pastoral Finance Company	34,233	31,283
New Zealand Loan and M. A. Company	31,018	25,522
Hill, Clarke & Co	24,671	19,995
Australasian Mortgage and A. Company	9,651	8,043
J. C. Young & Co	6,430	5,567
Campbell, Nimmo & Co	3,604	2,905
Total	310,282	276,686

The sales in Adelaide for the last five years have been as follows:

	Bales.
1892	54,380
1893	63,063
1894	64,672
1895	80,797
1896	62,836

At first sight, the Adelaide wool sales for 1896 show a very large falling off, but this is almost entirely due to the smaller clip resulting from the drought. It has the additional disadvantage of being compared with an exceptionally good clip in 1895. With the 1895 figures left out of the calculation, it will be seen that this season's Adelaide sales compare favorably with those of previous years.

The following is a complete statement of the offerings and sales of Australian wool in the three colonies from the commencement of the season to the Christmas recess, 1896:

Colony.	Offered.	Sold.
	Bales.	*Bales.*
Victoria	293,413	267,664
Sydney (from July 1)	310,282	276,686
Adelaide	71,800	62,836
Total	675,495	607,186

The above sales compare as follows with those in previous years from the commencement of the season to the Christmas recess:

Colony.	1896.	1895.	1894.	1893.	1892.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Victoria	267,664	272,751	257,714	268,294	261,657
Sydney	276,686	304,813	270,675	274,625	237,856
Adelaide	62,836	80,797	64,672	63,063	54,380
Total	607,186	658,361	593,061	605,982	553,593

It will be seen that the sales to date show a total decrease of about 50,000 bales compared with those of 1895, each colony contributing. It is, however, only when compared with 1895 that any decrease is shown. This year's figures are almost identical with those of 1894 and 1893, while they show a large increase over those of 1892. It is to be borne in mind that these figures relate only to a portion of the season in each case.

MINT RETURNS.

The following is a statement showing the gold received at the Melbourne branch of the royal mint during 1896, as compared with 1895:

From—	1895.	1896.
	Ounces.	*Ounces.*
Victoria	721,878.98	791,224.58
New South Wales	441.67	4,912.84
New Zealand	39,394.67	65,254.85
Queensland	112.02	47.85
South Australia	47,343.15	27,515.79
Tasmania	51,165.34	64,164.96
Western Australia	226,135.32	225,921.88
South Africa	8.26	71.28
Borneo	....	258.94
Light gold coin	281.31	399
Unknown	6,058.99	7,079.53
Total	1,092,819.71	1,186,851.5

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *January 3, 1897.*

THE GOVERNMENT OF NORFOLK ISLAND.

I have the honor to forward the following details concerning an important change in the island constitution which has taken place; also, a few remarks as to the state of the island. A few months ago, an alteration in the existing state of things was foreshadowed, but as no intimation came from headquarters (the governor of New South Wales holding a separate commission as governor of Norfolk Island) to the island executive, no action could be taken. On January 3, a paragraph in a Sydney paper aroused the inhabitants. Meetings were held in which they unanimously declined to be severed from the British authorities and to go under New South Wales. It was finally resolved to send the chief magistrate and a delegate to Sydney to interview the governor. On February 11, the delegates departed in the island schooner for Sydney, but the day after, without any previous intimation, the British war ship *Royalist* arrived from Sydney with a commission from his excellency the governor on board. This caused excitement, but Mr. Iono Quintal, the first councilor, who was acting magistrate, was equal to the occasion. A public meeting was at once called, at which Mr. C. Oliver and his suite appeared and at which his commission from the governor was read. The governor gave him plenary power to make searching inquiry.

The first act of the commissioner was to nullify the election of magistrates and call for a new election, because the magistrate did not carry out the governor's mandate which disfranchises all persons in arrears for school and doctor's fees. The magistrate and councilors were reelected by large majorities, so the situation in this respect remained unchanged. Another public meeting was called, in which the commissioner addressed the community at some length, telling the people plainly of their alleged failings and also that a change was necessary. After remaining two weeks on the island making inquiries and examining the books, the commission finally departed in the *Royalist*, which had returned for them.

The chief magistrate and his co-delegate were not successful in their mission. They had several interviews with his excellency, but nothing was accomplished, as the governor had apparently already made up his mind. The magistrate brought back with him a document which he was ordered to read within two weeks after his arrival home. The document stated that in consequence of disregard of the laws, it was his excellency's intention to appoint a resident magistrate to supersede the present executive, and that he himself would visit the island very soon, when the changes contemplated would be made. It was not, however, until the 9th of November following that the governor was able to come. On that date, he left Sydney in the war ship *Katoomba* for Norfolk Island and was accompanied by Colonel Spalding, the new chief magistrate and his aid-de-camp. The vessel arrived at Norfolk Island early on the morning of the 14th. His excellency received a very good reception from the people, who had assembled in large numbers. There was a public meeting at 3 o'clock the same afternoon at which his excellency and Colonel Spalding, several officers from the man-of-war, and a bodyguard were present, all in full uniform, the war ship at the same time firing a salute. The proceedings took place in the court-house and were brief in the extreme. His excellency began with the following speech:

> GENTLEMEN: This meeting is called for the purpose of proclaiming a new act altering the constitution of the island and for other purposes. Before, however, I read the act I will state in a few words the causes of the steps now taken. During the last five years reports of the unsatisfactory administration of justice in Norfolk Island have from time to time reached the governor of New South Wales, who, by an order in council of the 24th of June, 1856, is appointed governor of Norfolk Island. With a view to ascertain the facts, commissioners were appointed in 1894 and again in 1896 to visit Norfolk Island and report generally as to the state of affairs there, and more especially as to the administration of justice. The reports of these commissioners agree in finding that the laws and regulations of the island have not been observed with proper loyalty and respect, and that the administration of the law has been unsatisfactory. Under these circumstances, Her Majesty's Government has decided to appoint a resident magistrate, with powers defined under the laws of Norfolk Island, proclaimed on the 14th of November, 1896. Colonel Spalding, C. M. G., New South Wales Artillery, retired list, has been offered and has accepted the office. The object sought is to secure the impartial administration of justice, while leaving the local and municipal affairs of the island to be conducted by a council representing the inhabitants. In consideration of the fact that the Norfolk Island settlement originally formed part of the administrative colony of New South Wales, and that the legal business of the island and the registration of all land titles and transfers have uniformly been conducted by the Government departments at Sydney, Her Majesty's Government has decided to transfer the administration of the island to the Government of New South Wales. The Government of New South Wales has accepted the charge and as soon as the necessary arrangements have been completed Norfolk Island will be administered by the governor of New South Wales in council.
>
> I would enjoin upon all loyal inhabitants of Norfolk Island that it is their duty to assist the resident magistrate in administering the laws and regulations and in effecting such reforms as will conduce to the development of the resources of the island and to the improvement of the resident population.

His excellency then read the proclamation containing the new laws and laid them on the table; also, Colonel Spalding's commission as chief magistrate. He then declared the meeting closed, and, with his suite, abruptly retired.

The new laws are twenty-three in number and are simple enough. Clause 1 says:

> The executive government of the island shall be vested in the chief magistrate, who shall be appointed from time to time by the governor, and shall hold office during his pleasure. There is also to be a council of twelve elders (elective), although vacancies from death, incapacity, or absence from the island may be filled by appointment of the chief magistrate. The council will have the care of the roads, commons, and public reserves, and, subject to the approval of the chief magistrate, may make by-laws for the above purpose. They may also suggest alterations in the laws and regulations which they think desirable. The chief magistrate has power, with the assistance of a grand jury, to deal with all offenses except crimes punishable by death, which must be referred to the governor.

Clause 22 says:

> All laws, ordinances, and regulations in force within Norfolk Island when these laws take effect are hereby repealed and annulled, and the offices of chief magistrate and assistants or councilors established under these repealed laws, etc., are hereby abolished.

Clause 23 says that these laws shall take effect on and after the day of proclamation, *i. e.*, 14th of November, 1896.

It will thus be seen that the Pitcairn community, who, for more than one hundred years, have governed themselves by their own laws, is now abolished and that a new era has begun. The governor's legal right to annul the constitution given by the Queen when the community emigrated from Pitcairn was questioned. A deputation was appointed to wait on the governor, but he refused to discuss the subject further.

The new executive consists of the chief magistrate, a clerk of court, and a constable. The council of elders, twelve in number, has been elected and have commenced business, so far with satisfaction, but the future as regards taxation and other matters is troubling the people, because there is very little money in circulation and little chance to make any. At the close of last year and the beginning of this year, the island suffered from a severe and protracted drought, the islanders thereby being prevented from planting any of their staple food—the sweet potato—and the maize crop, too, having partially failed, it led to much hardship, but supplies fortunately came in from both Sydney and Auckland and the difficulty for the present was removed.

The whaling season closed last month. This industry is the stand-by of the community and although the men are expert and they have eleven boats engaged in the fishery, the catch was very poor (not much over 30 tons), and hardly paid for the men's food. The price, too, appears to be getting lower, only £12 ($60) being received for this season's catch, so that whaling prospects in the future are not encouraging.

From February to August, the island was visited by an epidemic of typhoid fever, caused, in the doctor's opinion, by the low state of the water supply following a very dry summer. There were forty cases and two deaths.

The population of the island, calculated on December 31, is: Norfolk community, 647; Melanesian mission, 222; total, 869. There were 19 births, 11 deaths, and 12 marriages among the Norfolk community during the year. Temperature for eleven months was highest in January and February (79°) and lowest in July and August (57°). Rain, eleven months (151 days), 48.27 inches.

ISAAC ROBINSON,
Consular Agent.

NORFOLK ISLAND, *December 21, 1896.*

DRAFT HORSES IN BRADFORD.

One of the first impressions I gathered in Bradford was the size and strength of the draft horses. To see the great, shaggy-maned, shaggy-legged creatures, from one to four of them at a time, pulling a cart or heavy van over the granite-paved streets is something certain to attract a stranger's attention. The effect of their size and height is increased by the tremendous shoes with which they are shod, which have protruding corks or knobs at the ends, which catch in the interstices of the stone settings and serve a useful purpose in preventing the horses from slipping in wet or frosty weather. When it is merely wet, the streets are as slippery as though greased. Three or four of the giant beasts hauling a heavy load up a steep Bradford hill instantly attracts the visitor. Everything about the horses seems to suggest strength and endurance. The manes are long and thick and the legs have long, shaggy hair, reaching from the hoofs to the knees.

With the idea that it might be interesting to the breeders and workers of draft horses in the United States to have particulars concerning the breed, length of service, food, cost, etc., of these animals, I have made particular inquiry of several persons and firms here who are both breeders and users.

I am informed that the largest and the best-bred draft horses in the world are produced in England, and that second to these, come the horses of Belgium. One of these animals, harnessed to a country cart weighing about 3,000 pounds, can pull, on the level, a load weighing from 6,000 to 10,000 pounds and work with that from eight to ten hours daily. In Belgium, horse breeding to a certain extent is under the control of the Government, which is said to account largely for the excellent type and fine characteristics of the Belgian horse, so evenly maintained in stature, form, strength, and breed. In order to arrive at definite conclusions based upon long experience in the working of horses, I submitted the following questions to firms of Bradford and vicinity especially noted for their fine live stock:

(1) What is considered the best breed?

(2) What draft horses are mostly bred in Yorkshire?

(3) What is the average age these horses acquire?

(4) How long will they last, working over the streets of Bradford and the roads of this district; in other words, what is their actual working life?

(5) In hauling machinery or manufactures of wool or raw material, what is the usual load in cwts. or tons for one, two, three, and four horses, and in what way are the best results obtained—by driving in tandem or in teams?

(6) Do manufacturers and others find it less expensive—horse feed, stabling, man attendance, etc., being included—to do their own carting between Bradford and points like Keighley or in having their goods hauled this distance by the railway.

(7) What are the average weight and height of these draft horses, and what are the largest and highest you know of?

(8) What food is most suitable for these large horses, and what would be the expense per horse for food and hay alone per month?

(9) About what is the average price of these draft horses, and about what is the highest and lowest price at which they sell?

I would also be glad if you could suggest any other information about these horses that would be useful, particularly concerning shoeing, harness, diseases, veterinary fees, etc.

ANSWERS OF MR. PRINCE SMITH.

To Mr. Prince Smith (of Prince Smith & Son, machine makers, of Keighley, 12 or 15 miles out of Bradford), whose products are well known in the manufacturing districts of the United States, I am indebted for the appended reply, which I feel sure will be of especial benefit to horse owners and stock farmers, because it is the essence of long experience.

(1) The shire horse has all along been considered the best draft horse on account of his large size, but during the last ten or fifteen years great faults have been found with his bad feet and apparent predisposition to sidebone. These defects have caused breeders to look more closely to the Clydesdale draft horse. This horse is lighter, harder, and more active, and either by careful breeding or the natural predisposition, fewer defects have been found in his feet and fewer horses are troubled with sidebone. If very careful selection could be made for town and country work, we should say a cross between the shire and the Clydesdale would make the soundest and most valuable horse.

(2) We should say the breeds are equally divided between the shire and the Clydesdale and the cross between the two.

(3) This is rather a difficult question, as a great deal depends upon the food and the treatment they receive. We have thirty-six draft horses at the works and twenty on the farm. At the works, I find we have a few horses 16 and 17 years old, a few at 6 to 9 years, and a large proportion from 9 to about 14. We often sell out our horses, say, when they are about 16, and they go to farm work and probably last about three years.

(4) Nine years, average, in hard work.

(5) We believe the best results can be obtained by working four horses, two abreast. Where there is a great amount of heavy backing to do, double shafts are preferred; where there is no difficulty in this respect, a pole wagon, with a horse on each side of the pole and two in front.

(6) People conveying yarn or pieces from Keighley to Bradford prefer doing so by their own wagon when they can load back with wool, and this is cheaper than having it hauled by the railway. But if they have no load back, they would not use horses; they would forward by rail. Machinery such as ours we convey by horses on the road, because the rehandling by the railway companies has resulted in breakages, which more than balance any saving we may make in sending our machinery by rail.

(7) The average height of these draft horses is 16.3 hands and their average weight is, say, 15 cwts. (1,680 pounds). At the same time, we have now twelve horses out of our thirty-six which are 17¼ hands and the average weight is 16½ cwts. (1,848 pounds).

(8) Oats at least 12 months old, and chopped hay at least 12 months old, a small proportion of English beans 12 months old, and a small proportion of bran that is taken from the wheat in grinding. It is of the utmost importance that all corn supplied to horses should be what we call fully developed, matured food.

Dealing further with the food question, once a week (Saturday preferred) every horse we have gets a quantity of curried barley, both solid and liquid, this is mixed with bran, linseed oil, salt, and sometimes a little sulphur in the following proportions: Bran, 2 pounds; curried barley, one-half pound; linseed oil, one-half gill; salt, one-half handful; sulphur, spoonful occasionally; mix the salt, sulphur, and bran, dry, and then pour on the oil and boiled barley. Before we commenced giving our horses this weekly tonic, we paid $400 a year for doctor's bills; since, we have paid an average of $15 per year, and we believe the reduction of disease is entirely due to this particular weekly tonic.

(9) This question is a difficult one to answer. For instance, three months ago, we saw a horse for which a farmer wanted $500. We could not afford to give $500 for a horse to drag machinery about the country; we ultimately gave him $400, but he was a magnificent specimen. A sound horse coming 6 years old, 17 hands, and weighing 16½ cwts. can not be bought for less than $350.

Weekly food for each draft horse owned by Prince Smith & Son.—Chopped hay, 42 pounds; oats, rolled, 98 pounds; bran, 35 pounds; indian corn, crushed (maize), 21 pounds; beans, crushed, 14 pounds; total, 210 pounds.

THE MIDLAND RAILWAY COMPANY'S HORSES.

From Mr. R. L. Jervis, the manager of the freight department of the Midland Railway at this point, I also obtained some very valuable details, differing but slightly from those furnished by Mr. Smith. In all of Great Britain, the Midland owns many hundreds of horses and the appended information, though directly applying to the large stables at Bradford, perhaps covers all equally:

(1) Shire horses or Clydesdales are considered the best for railway work.

(2) There is no particular breed of cart horses belonging specially to Yorkshire, but the favorites in that county seem to be the Clydesdales, although English shire horses are largely bred.

(3) This company buys their horses at 5 years of age and the average length of service is about five years.

(4) See No. 3.

(5) The loads vary according to the gradients, nature of the roads, and distance the goods have to be taken. This company's regulation is that a load for a horse in a one-horse dray must not exceed 30 cwts. (3,360 pounds), or for two horses in a two-horse dray, 3 tons, and so on in proportion. We find it best to drive two horses tandem.

(6) If all expense were taken into consideration, it would be cheaper to forward goods by rail to Keighley from Bradford, rather than keep a staff of horses for the special purpose of carting between the two towns, although for a firm keeping horses for town cartages and having not sufficient regular work it might be more economical to send an odd load by road to such a place as Keighley to fill up the time of men and horses.

(7) The average height of horses bought by railway companies in Bradford would be 16.2 or 16.3 hands, and the average weight from 17 to 18 cwts. (1,904 to 2,016 pounds). We have had horses in very exceptional circumstances weighing 1 ton (2,240 pounds) and 18 hands high.

(8) The food we find most suitable is the following mixture: Hay and clover chop, 98 pounds; oats, 56 pounds; bran, 14 pounds; beans, 28 pounds; maize, 28 pounds; total, 224 pounds per horse per week, which costs about $2 per week at present market prices.

(9) The average price of such horses as we use in Bradford would be $275 to $290, and they would realize when sold about $60.

THE HORSES OF A BREEDER, MANUFACTURER, AND MERCHANT.

Mr. Abraham Grandage (senior partner of Messrs. E. G. Williams & Co., export stuff merchants, 32 Hall Ings, Bradford, and of W. Grandage & Co., dyers and finishers, Brownroyd street and 12 Bentley street, Bradford), who has bred some of the finest draft horses in England, among them being numerous prize winners (one taking the first prize at the national horse show last year), was good enough to give me the following:

Shire horses are considered the best draft horses for England. In Yorkshire, hackneys are mostly bred. In Lancashire, Derbyshire, Lincolnshire, and the midland counties, the shires are favored. The great effort is to breed a hard bone (an ivory-legged bone) that will last and is not subject to disease. A limestone subsoil is the best to bring out good qualities in shires. In the natural condition, I would say the life of a horse is 20 to 25 years. Town work commonly shortens their lives seven or eight years. A horse is said to have three ages—he grows seven years, works seven, and fades seven. A horse will grow until it is seven years old. It will reach its full height first at the age of four or five years and then its body develops. The last growth of all is lengthwise—the body grows longer. On rough, stone-paved streets, such as we have in Bradford, not many horses last over seven or eight years, though some may go on fourteen or fifteen years. In Grandage's dye works, one horse is 21 years old and has been working since 3 years of age. Many soon acquire lameness from slipping or falling. At Grandage's, single horses usually haul a ton* or a ton and a half for the country, while a team of two horses with a four-wheeled wagon will go out with a load of 50 cwts. (5,600 pounds) and travel 70 or 80 miles before returning. They are supposed to do this twice a week, making the trip from Bradford to Manchester and return twice within six days. In doing this, they bait (feed) every 15 miles. Sometimes they make the trip three times a week, but twice is often enough. The cost of this method of transportation is about 12 cents per mile per load with a team of two horses, including one man's wages and allowance. We have tried side-by-side teams, but prefer tandem for country roads, and especially where roads are narrow. For town, side by side is better. I have been referring to loads of goods such as cloth or linings. For larger loads, such as machinery, a four-horse team is better.

---

* The English ton=2,240 pounds.

In many of our loads, there are goods for seven or eight different places and it is cheaper and better done driving even the distance to Manchester (40 miles) than to ship the same goods by rail. It would cost 50 per cent more for us to ship to Manchester by rail, calling at several places, as we do, than it does to convey by our teams.

The average height of our horses is 16 to 17 hands. Sixteen hands is about as useful as you can get in a square, well-made horse. The average weight of our horses is 1,600 pounds; railway horses are about 1,800 pounds; brewers' horses are often 1,900 to 2,400 pounds. The brewers buy big horses. They have slow work and are fed on juicy stuff which puffs them out and makes them look well. You can get such a horse from a ton to 2,400 pounds. I have known a brewer's horse to be 18 hands high and weigh 24 cwts. (2,688 pounds), but that is exceptional.

Mr. Grandage also feeds his horses on a mixture of oats, beans, bran, and hay. To fatten draft horses up, as is sometimes done to sell them, it is necessary only to give them oats and beans, boiled with a little linseed, three times a day, and as much hay as they can eat. With this diet and 2 or 3 miles exercise a day, they will soon fatten. The average cost of keep of Mr. Grandage's horses is $12.50 per month each, or 44 or 45 cents per day. Draft-horse prices vary according to the class which uses them. For instance: Class 1, brewers' horses and railway horses, $400 to $500 each; class 2, horses for better-class manufacturers and tradesmen, $300 to $400; class 3, all ordinary street traffic, dealers in coal, etc., $200 to $300. It is his experience that one can get $500 for a really fine, first-class, well-shaped, stylish horse easier than $200 for an inferior horse. Very few horses approach perfection in all points. The greatest trouble in breeding and owning draft horses is that they are subject to sidebone or ringbone, causing lameness. The pain caused by this is about such as a man suffers from a bad corn. It is the commonest cause of lameness in shire horses. Sidebone and ringbone are serious defects and need breeding out. It can be done only by breeding from sound animals. The commonest cause of death in towns arises from colic. When a horse has had a genuine case of this once, even though recovery ensues, he should be shipped off to the country for farm work and farm keep, as the complaint is recurrent. The horses with bad cases of sidebone or ringbone are also sent to the country, where farm work, pasture, and soft roads make their existence more endurable.

THE BRADFORD TRAMWAYS AND OMNIBUS COMPANY'S HORSES.

Through the kindness of Mr. W. Vaux, the secretary and manager of the Bradford Tramways and Omnibus Company, Limited, I am enabled to give the following particulars relative to that company's stud of horses, which numbers 140. They are crossbred, mostly Irish, the remainder being English and Canadian, and average 15.3 hands high. They cost about $150 each and their length of service is generally five years. Their food consists of: Oats, 7 pounds; maize, 6 pounds; beans, 2 pounds; bran, 1 pound; chopped hay, 14 pounds; giving a total per horse per day of 30 pounds. The average cost of maintenance per week is $2.31. The shoeing account runs to 30 cents per horse per month, and the veterinary surgeon's expenses to 13½ cents per horse for the same period.

SHOEING.

Shoes are made of various sizes and shapes, according to the feet of the animal. They vary for draft horses up to 19 or 20 inches in circumference, about 1¾ inches in width, and 5½ to 6 pounds in weight. The feet are kept as near to the ground as possible and the toe and heel of the shoe is regulated according to the step, plenty of cover and length being allowed, but not too much. The hind part of the shoe is raised, ranging up to 1 inch.

CLAUDE MEEKER,
Consul.

BRADFORD, *January 21, 1897.*

IMPROVED SPINNING MACHINERY IN BRADFORD.

I inclose a newspaper report of an important improvement in connection with spinning machinery, which may be of interest in our textile-manufacturing centers.

CLAUDE MEEKER,
Consul.

BRADFORD, *February 9, 1897.*

[From the Bradford Observer, January 25, 1897.]

An invention which promises to work a revolution in spinning practice has recently been introduced on a large scale at Briggella Mills, Little Horton. Messrs. J. Briggs & Co., and the inventor, Mr. Richard Temmel, a Berlin engineer, are the owners of the patent rights, the idea having been worked out to its practical success in the mills of Messrs. Briggs, Posselt & Co., Warsaw. The object of the invention is to entirely supersede leather-covered rollers in spinning and drawing machinery. As every spinner knows—although it is an article in the creed of the roller coverer that "there is nothing like leather"—even leather-covered rollers have their weak points. If the leather is not of good quality and even texture it soon develops a weak spot somewhere, and, however good it may be, the smooth outer skin of the leather in time wears into a groove from the constant passing under it of the yarn or roving. In either case, the roller ceases to be true and it will not produce good yarn. The roller is removed from the spinning frame and is sent to be recovered. The average length of time for which a pair of rollers will last before requiring a new cover varies very considerably with the nature of the work to be performed and the pressure put upon the rollers, but two years is a liberal allowance in most cases. The roller itself is usually formed of an iron boss fitted on to the spindle or arbor, the boss supporting a wood rim which forms the bed to which the leather covering is fastened. In time, with the constant re-covering, the wood itself crumbles away and requires to be renewed. Thus, in every large spinning concern, a heavy stock of reserve rollers is required, and these represent in the aggregate a considerable amount of capital. Numerous attempts have been made from time to time to discover some more economical form of roller, but hitherto the leather-covered, built-up roller of iron and wood has remained without any serious rival. One great reason for this is that leather not only possesses and retains for a long time the necessary quality of elasticity, but its "drafting" power excels that of any substitute which has yet been tried. Mr. Temmel, however, after making a good many experiments in conjunction with Mr. Alfred Briggs, of the Warsaw firm referred to, hit upon the idea of using cork, and finding that the result was encouraging, followed it up until he has produced a roller which, it is claimed, not only answers every requirement, but is even superior to the leather-covered roller as a spinning instrument.

The form of the cork roller is closely analogous to that of the emery wheel. The cork is first broken up into a granulated form, and is then mixed with a binding material of glue, shellac, resin, oil, and the like into a plastic paste, in which condition it is molded and subjected to great pressure, the result, when dried, being an absolutely homogeneous material of about the same specific gravity as mahogany, but entirely differing from wood in other respects. In can be turned in a lathe just as readily as wood, but is much more elastic, and the "feel" of the turned surface is just that which is peculiar to a newly cut bottle cork. Unlike wood, it is not liable to crack, warp, or shrink, and it needs no leather covering. The method of making the rollers is first to force two wooden centers, or naves, on to the arbor or axle, after which they are turned up dead true to a diameter of, say, an inch and a half. The cork disks, which are bored exactly to fit, are then in turn forced on, the joint being made in glue, and the complete roller is then turned up and varnished. The rollers for drawing and gill boxes are made in precisely the same way, but are, of course, of different sizes and proportions. As regards the spinning qualities of the roller, Messrs. Briggs & Co. speak with the confidence of long and extensive trial. The whole of the large establishment at Warsaw, with 50,000 spindles, has now been running for more than twelve months with the new rollers, and on more than half the frames at Briggella the change has been made, and as fast as possible the old style of roller is being thrown out. It is found in practice that the drafting power of the cork roller is so much better than that of leather that very much less pressure is required on the springs—a point, as will be seen presently, of enormous importance. Then, it is found that the new roller is always true, and does not wear unevenly, so that the yarn is more regular; the cork never catches the yarn as the leather cover is apt to do, and so there is less waste from "laps;" and when the surface of the cork roller wears in the middle, as, of course, sooner or later, every roller must, if the roller is put into the lathe a touch of sandpaper makes it as good as new in a moment. Thus the life of these rollers is practically the whole period required to wear away the 2 inches or more of the cork covering, and that apparently would be a "lifetime." Moreover, the same roller does equally well for botany, long wool, mohair, or alpaca.

There is, however, another aspect in which this invention is even more important than in the great saving which it effects by doing away entirely with roller covering. Cork is, as everybody knows, a very light substance, and although the compressed material of which these rollers are made is not exactly as light, bulk for bulk, as virgin cork, the new roller is still very much lighter than the old wood, iron, and leather combination. Indeed, a pair of drawing rollers of the old type weighing 54 pounds are replaced with rollers of exactly the same dimensions weighing only 26 pounds, and there is a corresponding reduction in the weight of the spinning-frame rollers. Reference has been made above to the fact that less pressure is needed upon the arbor of the rollers. This, of course, means less friction in driving the frame, and so extraordinary is the reduction in friction arising from the reduced weight of rollers and less pressure, that a two-hundred-spindle frame can be driven with a belt only one and a half inches wide. At Briggella Mills, as the frames were changed, 2-inch belts were at first substituted for the old 3-inch belts, but now, inch and a half belts are the rule, and there are no tension pulleys on the frames. This means a saving in power of one-half, and of course a corresponding reduction in the weight of shafting and pulleys in any new plant. One room at Briggella which took 100 horsepower to drive it, now only requires 50 horsepower, and it is significant that there is no longer any breakage of wheels in starting on a Monday morning. It is found that three boilers will easily do the work of five, and what such a saving carried through the whole of the spinning trade would mean is well-nigh beyond calculation.

TIMBER TRADE OF IRELAND.

As many letters reach this office asking information in regard to the timber importers in the consular district of Dublin, I think it may be of value to report upon this trade, covering such features as may be of interest to timber exporters in the United States. I also inclose the names of the firms in Ireland engaged in the timber import trade. All of the information in the report is gleaned from the trade journal, Timber, in its special edition of February 1, which deals in an exhaustive way with the timber-importing trade of Ireland.

The total values of wood goods imported into Ireland during the years set out below were as follows:

Year.	Value.	
1886	£526,051	$2,561,954
1891	593,075	2,888,590
1892	804,129	3,912,891
1893	664,568	3,233,788
1894	763,376	3,714,588
1895	758,382	3,690,287
1896	807,145	3,927,568

The figures for 1896 are compiled from the official figures at the various ports for 1896, except for the ports of Wexford, Sligo, Galway, Tralee, Dundalk, Drogheda, and Coleraine, for which the returns for 1896 are not given, and the figures for 1895, amounting to £63,582 ($309,390) in the total, are taken to represent the import of these ports in 1896 and included in the total given for 1896. As the chief Irish ports show an increase in the volume of trade of 1896 over 1895, it is probable that the total given for 1896 is a little under the actual figures.

The timber-importing trade of Belfast has grown from a valuation in 1886 of £169,128 to £336,103 ($828,298 to $1,635,477) in 1896. The character of the trade at Belfast in 1896 is given in loads* as follows: Sawn-wood goods, 114,581; oak logs, 431; mahogany, 925; log timber, 19,426; teak, 1,955; staves, 745.

At Coleraine, the value of imports rose from £2,089 ($10,165) in 1886 to £3,181 ($15,478) in 1895, and the whole trade seems to be in sawn-wood goods.

At Cork, the value of the imports increased from £46,192 ($224,770) in 1886 to £78,423 ($381,161) in 1896. The character of the trade in 1896 is given in loads* as follows: Sawn-wood goods, 32,809; oak logs, 10; mahogany, 91; log timber, 1,832; staves, 33.

The trade at Dublin increased from a valuation of £165,285 ($804,278) in 1886 to £220,197 ($1,071,479) in 1896. The character of the trade in 1896, in loads,* was as follows: Sawn-wood goods, 74,708; oak logs, 1,296; staves, 2,093; log timber, 8,211; mahogany, 64.

The value of the trade at Dundalk increased from £17,819 ($86,707) in 1886 to £20,526 ($99,889) in 1895. The character of the trade in 1895, in loads,* was as follows: Sawn-wood goods, 3,838; log timber, 5,535.

The trade at Drogheda increased from a valuation of £2,579 ($12,549) in 1886 to £4,492 ($21,857) in 1895. The trade was almost entirely in sawn-wood goods.

The timber trade at Galway shows a slight decrease in 1895 from that of 1886, the figures being, in 1886, £7,732 ($37,624) and in 1895, £7,268 ($35,366). But the trade in 1894 reached a valuation of £13,379 ($65,102), and if heavy shipments were received in the closing months of the year, as is probable, this would account for the apparent decline in 1895. The trade is almost exclusively in sawn-wood goods.

The trade at Limerick shows an increase in valuation from £10,451 ($50,854) in 1886 to £11,347 ($55,114) in 1896, but here again the valuation reached £18,116 ($88,152) in 1895. The trade at this port is almost exclusively sawn-wood goods.

The trade at Londonderry in 1896 reached a valuation of £28,802 ($140,150), the trade in 1895 having amounted to £41,892 ($203,456). These latter figures seem to be considerably above the normal trade of the port and doubtless account for the greatly lower figures of 1896. The trade is chiefly in sawn-wood goods, this class of goods amounting, in loads,* in 1896, to 11,655; log timber, 469.

---

* 50 cubic feet.

The trade at Newry in 1896 amounted to £24,501 ($119,222), which would appear to be about the normal trade of the port since 1892. The trade is chiefly in sawn-wood goods.

The trade at Sligo reached a valuation in 1895 of £9,747 ($47,429), which would appear to be considerably below the normal trade since 1892. The trade is chiefly in sawn-wood goods.

At Tralee, the trade has gradually advanced from a valuation of £5,019 ($24,422) in 1886 to £10,838 ($52,738) in 1895, and is chiefly in sawn-wood goods.

At Waterford, the trade has grown from a valuation of £18,753 ($91,252) in 1886 to £26,931 ($131,046) in 1896. In 1896, there were, in loads:* Sawn-wood goods, 11,579; oak, 50; log timber, 33.

At Wexford, the trade increased from a valuation of £2,790 ($13,576) in 1886 to £7,530 ($35,441) in 1895. The trade for 1895 seems to have been considerably above the normal and the official figures for 1896 will probably indicate a decline as compared with 1895.

In addition to the ports quoted, Westport and Youghal usually receive a cargo of spruce each year, and Skibbereen, two cargoes.

I quote from Timber in regard to the sources from which imports are derived, and also as to the kinds most in favor:

> As to the favorite specifications of the Belfast imports, the Canadian† white pine and pitch pine in demand are of the usual specifications. The Baltic timber now imported is chiefly Riga mauerlatten and Memel running specifications. There is a large consumption of rock elm in Belfast. Teak is generally imported by the local ship brokers, but mostly sawn by the merchants. Miramichi pine deals and Quebec red pine, both deals and timber, are favored in Belfast, and, indeed, in Ireland generally. Of Swedish deals, 4 by 9 and 2½ by 8 are acceptable sizes, and in Norway flooring, Ulster men like 1 by ⅝:
>
> The kinds of sawn goods imported into Dublin consist of Canadian spruce and, in a lesser degree, of pine. Norway floorings are the next important item in the list, and then Russian goods (chiefly Riga) and Swedish follow respectively in order of importance.
>
> During the period named (last ten years), there has been a largely increased import of Canadian and Norwegian goods, particularly the former. Imports of log timber to Dublin have of late years decreased considerably in the grand total. In detail, the decrease has been most marked in pitch pine and in Riga timber, which latter at present forms the great bulk of the timber import.
>
> As in the north, the principal imports into Cork have, for many years past, consisted of Canadian spruce and Norwegian floorings. In 1892, however, a small cargo of Swedish goods was brought in for the first time, since which time the importation of Swedish "red deals" has increased. It is remarkable that it is only during the past few years that Ireland has become a market for Swedish goods. Speaking of sawn goods generally, there is here, as in Dublin and the north, an annually increasing import. Of log timber, Quebec pine is no longer brought into Cork direct

---

* 50 cubic feet.

† As there is considerable Irish imports from southern ports of the United States, Canadian, I presume, means American.

from abroad. It is to be presumed that it has become too expensive for the Cork demand, and its place has been taken, to some extent, by Baltic timber. Pitch pine, however, is and always has been the principal variety of log timber imported into this place.

I am of opinion that the imports for the ports mentioned give the general characteristics of the Irish trade, and that it is unnecessary to deal with the smaller ports in detail, as the figures of their trade indicate that they deal chiefly in sawn-wood goods, the sources of the supply of which are chiefly the same as those for Belfast, Dublin, and Cork.

The importers of wood goods into Ireland at the various ports are, according to Timber, the following:

Belfast.—Thomas Dixon & Sons, 113 Corporation street; J. P. Corry & Co., Limited, Princes' Dock; Robb Bros., Duncrue street; James Agnew & Co., Ballymacarrett, Queen's Bridge; H. Hutton & Co. and Kirkir Robb & Co., Whitla street; Gregg & Co., Green street; Munster Simms & Co., brokers and agents, 7 Albert Square.

Coleraine.—Thomas Campbell & Sons.

Cork.—Messrs. Eustace & Co., Leitrim street; R. Houghton & Co.; Deaves Bros., Alfred street; J. W. Ritchie, Clark's Bridge.

Drogheda.—Drogheda Saw Mills Company.

Dublin.—Richard Martin & Co., Sir John Rogerson's Quay; T. & C. Martin, Limited, 76 North Wall Quay; Lock & Woods, Custom-House Docks; Ramsay, Brown & Co., 16 Beresford Place; Robinsons, Limited, Great Brunswick street; John McFerran & Co., 4 Beresford Place; James Booth, 26 Ship street; William Graham, 3 Beresford Place; Brooks, Thomas & Co., 4 Sackville Place; J. Kelly & Son, 66 and 67 Thomas street; W. & L. Crowe, 50 South Richard street; T. B. Allen & Co., 29 Lower Ormond Quay. The latter firm's specialty is staves; it deals in all kinds of American oak, poplar, hickory, and white ash, and imports only from their American house established at Memphis, Tenn.

Dundalk.—T. Williamson & Sons and Patrick Jennings & Co.

Newry.—William F. Redmond & Co. and Carvill Bros.

Limerick.—Francis Spaight & Son.

Londonderry.—J. & J. Cooke, Robert Keys & Co., and Joseph Ballantine.

Galway.—B. Hynes, Cloherty & Semple, and T. McDonogh & Sons.

Sligo.—O'Connor & Cullen.

Tralee.—R. McCowan & Sons and John Donovan & Sons.

Waterford.—Graves & Co.

Wexford.—Jasper Walsh & Co.

NEWTON B. ASHBY,
Consul.

DUBLIN, *February 19, 1897.*

AGRICULTURAL STATISTICS OF IRELAND.

The registrar-general has just issued a return showing the extent in statute acres and the produce of the crops in Ireland for the year 1896. From this return, it appears that the acreage in the chief cereals, roots, etc., was:

Products.	Area, 1896.	Average for preceding 10 years.
	Acres.	*Acres.*
Wheat	38,019	71,497
Oats	1,193,581	1,253,908
Barley	173,032	174,070
Rye	13,715	12,912
Potatoes	705,665	761,405
Turnips	308,471	301,512
Mangel-wurzels and beet roots	54,301	47,078
Flax	72,253	99,142
Grasses and pastures	2,202,424	2,148,805

In the period included above, the acreage has varied from year to year, but the general tendency shows a steady decrease in the acreage of the chief cereals. In the ten-year period, this amounts to nearly 50 per cent in wheat, nearly 5 per cent in oats, and over 25 per cent in barley. There is also a decrease in the acreage devoted to potatoes of more than 7 per cent. That devoted to turnips shows an increase, while that devoted to mangel-wurzels and beet roots shows a marked decline. The acreage devoted to flax also shows a steady decrease, although this acreage fluctuates very greatly from year to year. The acreage devoted to grasses under rotation and to permanent pastures shows a steady increase, but comparing 1895 with 1896, there was a gain in 1896 of something like 20,000 acres in grasses under rotation, and a loss of acreage devoted to permanent pastures of between 11,000 and 12,000 acres.

The average produce per acre of the principal crops in 1896, as compared with the average for the ten years preceding, was as follows:

Products.	1896.	Average, 10 years.
Wheat … cwts.*	16.8	15.7
Oats … do.	14.2	14.4
Barley … do.	18.2	16.3
Rye … do.	12.7	12.6
Potatoes … tons†	3.8	3.6
Turnips … do.	15.5	13.3
Mangel-wurzels, etc … do.	14.6	14.2
Flax … pounds	319.2	392

* 112 pounds. † 2,240 pounds.

Grasses and permanent pastures are shown to be about average.

The above returns indicate that the agriculture of Ireland for the year just closed is an average condition, but the current reports from the various counties are to the contrary, and there are rumors of distress among the peasant class in many portions of Ireland. A large part of this may be due to the fact that from the beginning of the harvest until the present time the climatic conditions in Ireland have been very unfavorable to the proper saving of crops.

In potato cultivation, the Champion variety continues to hold its place as the principal one cultivated, being, for the year 1896, 75 per cent of the total acreage. This variety has held this preeminence since 1880, but it is thought that it is beginning to deteriorate and that some other variety will have to take its place as the staple.

The price of grains has not been entirely satisfactory to the farmer during the year. I have no returns upon which to base comparisons. The Dublin markets for the year 1896 show the following comparative returns under the heads quoted:

Fat cattle averaged throughout the year a weekly supply of 2,472 head, the best bringing an average of $7.54 per cwt.* and the average for all classes being about $7, which is estimated to be about 47 cents per cwt. below the price in 1895. The lower average is attributable to a dry summer, which forced the marketing of many cattle before they were in proper condition.

Milch cows of prime quality averaged about $90 per head.

Prime wether mutton averaged about 12½ cents a pound and the general average, disregarding quality, was from 8 to 15 cents a pound. The number of sheep offered in the Dublin market in 1896 was 345,138 head, or about 15 per cent more than in the preceding year.

Pigs for home curing brought an average of about $8.57 per cwt.; choice hogs for shipping brought about 50 cents per cwt. less. The market was about as in 1895.

The wool market remained practically unchanged. Downs averaged about 21 cents per pound; hoggets, 20 cents; mountain, about 15 cents.

NEWTON B. ASHBY,
Consul.

DUBLIN, *February 10, 1897.*

THE MINERAL INDUSTRY OF GREAT BRITAIN.

A report on the mineral industry of the United Kingdom, compiled by Mr. C. Le Neve Foster, and recently issued by the British Home Office, is replete with interesting statistics and covers a wide field of investigation. It is a very large volume and only a few salient points can be given within the limits usually allowed to consular reports.

---

*1 cwt.=112 pounds.

The report deals with the year 1895, and its delayed publication is due to the great labor required to obtain and compile the facts. The shallow quarries are not dealt with, as the authorities have no statutory powers to demand returns from those which have not a depth of more than 20 feet.

COAL MINES.

Coal mining is much the most important of the mineral industries of the Kingdom, iron ore being the next in output and value. The total amount of coal raised during 1895 was 189,661,362 tons of 2,240 pounds, distributed throughout the Kingdom as follows: England, 132,760,636 tons; Scotland, 28,792,693 tons; Wales, 27,973,647 tons; Ireland, 125,586 tons. The average price of coal at the mines during the year was, in England, $1.49 per ton; Scotland, $1.30; Wales, $1.66; Ireland, $2.05.

The output of coal in 1895 was greater than in any preceding year, though only slightly in advance of that of 1894. The value was less than in 1894, being $278,515,698 in 1895 and $305,276,416 in 1894. The difference in value is accounted for by the fact that the price of coal was higher in 1894 than in 1895.

The increase of output over 1894 was 1,375,037 tons, accounted for by an increase of 7,311,139 tons in Scotland and 12,982 tons in Ireland, and a decrease of 5,566,778 tons in England and 382,306 tons in Wales. The increase of output in Scotland was abnormal, as compared with the preceding year, most of the Scotch collieries being idle for some months during 1894 in consequence of a general strike.

The question as to how long the coal supply of the Kingdom will suffice for the needs of the people is attracting attention. In 1861, Professor Jevons predicted that, if the annual increase of consumption should average 3½ per cent from that time, the coal supply of Great Britain would be more than exhausted at the end of one hundred and ten years. The annual increase of consumption has, however, averaged only 2.8 per cent since the prediction was made.

It is reasonable to suppose that, as old collieries are worked out and no new fields are available, the output will scarcely keep pace with the consumption, unless some improved method comes into operation by which power may be supplied at a greatly reduced rate of coal consumption.

That Great Britain, early in the next century, will have to look outside her home coal fields for a part of the fuel necessary to carry on her great industries seems more than probable.

The number of persons employed in coal mining in 1895 was less by 5,719 than in 1894, the total number employed in 1895 being 687,371, against 693,090 in 1894. The output per head was 275.9 tons in 1895. The total number employed includes boys and others about the mines. In some cases, the collieries were not worked full time, hence it is difficult to find the average amount earned per day by those engaged in the mines.

IRON ORE.

The iron ore raised in 1895 amounted to 12,615,414 tons, valued at $13,935,973. The total output exceeded that of 1894, but, as in the case of coal, the value was less, owing to the lower prices prevailing in 1895. The excess in quantity was 248,106 tons and the decrease in value amounted to $1,581,311. The average value per ton in 1894 was $1.2555, and in 1895, it was $1.1046.

The number of persons employed in mining iron ore in 1894 was 15,447, and in 1895, there were 16,087, or 640 more in the latter year than in the former. The amount of iron ore raised per head of those employed was 800.6 tons in 1894 and 784.2 tons in 1895. The value of the product per head was $1,005.15 in 1894 and $867.23 in 1895.

TIN, COPPER, AND GOLD ORE.

Tin ore shows a decline both in quantity and value as compared with 1894, and lead was less in quantity, but greater in value.

Copper shows an advance both in quantity and value, but the amount raised is comparatively insignificant.

Gold ore amounting to 13,266 tons, valued at $80,706, was raised in 1895, against 6,603 tons, valued at $66,053, in 1894.

TOTAL OUTPUT.

The year 1895 shows a falling off in the total value of the products of the mines, as compared with 1894, of $42,675,672, notwithstanding that there was an increase in the total output.

FATAL ACCIDENTS IN MINES.

The number of accidents resulting in loss of life in and about the mines and quarries during 1895 numbered 1,016, attended with the death of 1,198 persons. In the mines, there were 914 fatal accidents, causing 1,096 deaths, and at the quarries 102 accidents and 102 deaths. The number of persons seriously injured or disabled is not given. The coal mines are responsible for 1,020 deaths from 846 accidents, the iron-ore mines for 21 deaths, and in other mines there were 55 deaths from 47 accidents.

The fatal accidents have not kept pace with the increase in the number of persons employed, and it is therefore concluded that employment in mines is becoming less hazardous. Falls of ground resulting from insufficient timbering occurred in 412 cases, and this seems to have been the most frequent cause of fatal accidents.

FRANK C. MCGHEE,
HUDDERSFIELD, *December 10, 1896.* *Consul.*

COST PRICE OF COAL IN EUROPE.

I send the translation of two articles relative to the cost of coal at the mines. They tend to show the advantage of American miners by reason of the employment of improved machinery and freedom from excessive taxation. From them, some hopes of the introduction of American coal abroad may be deduced.

HENRY C. MORRIS,
GHENT, *November 30, 1896.* *Consul.*

COST OF PRODUCTION OF COAL IN DIFFERENT COUNTRIES.

It seems clearly demonstrated by the present condition of matters that the success which coal-producing countries may claim in the future in the industrial and commercial domain will depend as much upon the price of labor as upon natural resources. Until the present time, says the Iron and Coal Trades Review, of London, Great Britain has been in an excellent situation in both these respects. Labor is not cheap in the ordinary sense of the word, the rates of wages there being higher for a given quantity of work than in other countries, but this circumstance does not solve the question, for the price of labor can in reality be very cheap even though nominally quoted at high figures.

This is the case in a great portion of the United States, especially in the coal industry, where the price of labor by quantity produced is exceedingly low, much lower, perhaps, than in any other country and certainly lower than in any country producing on a large scale. Until lately no one would have thought of doubting the assertion that England produced coal the most cheaply. This, in fact, was the case until a comparatively recent period, but it is to be remarked that the United States long ago excelled England in the economical production of coal, and some districts in Germany even extract their coal under better conditions than England. Granted that the rates of wages in the United States are nominally twice as high as in Germany, it is evident that the question of cheapness in production does not depend entirely on the price of labor, since, in spite of the high rate of wages, the cost of production of coal is considerably less in the United States than in Germany. The fact is that the rate of wages, the skill of workmen, the number of hours of labor, and other factors of this kind do not alone influence the cost of production of coal; this remains subject to the natural advantages which certain countries possess over others. Thus, for example, the coal veins in the United Kingdom can be worked under more favorable conditions than those of other European countries, but are not as favorably situated as the American mines, of which a great number are worked in the open air or by means of inclined planes. In Belgium, in Germany, and even in England, pits of a greater or less depth must be dug. It is therefore evident that in case of international competition it is the country possessing the most natural advantages which must attain the best results, all other factors being equal, and that in certain cases the rate of wages must necessarily be calculated in a manner to counterbalance the difference existing in material conditions. In England, the cost of labor to produce one ton of coal ordinarily varies between 97 cents and $1.09 which represents from 60 to 70 per cent of the value of the product according to the price of sale. For the United States, it is found by the census of 1889 (the last statistics published) that the proportion of wages paid at the mine in proportion to the value of coal extracted is 68.1 per cent; that is, the total of wages paid to the 229,559 workmen employed in the coal-mining industry is equal to $1,070,630,000 for the entire year on an average of $355.25 per workman. For bituminous coal, the cost of labor attained 72.95 per cent per ton, or 85 cents, a less figure than the average of the United Kingdom.

This circumstance can be explained by the fact that the American miner produces a larger quantity of coal than the English miner, but it may likewise be attributed to the perfection of machinery, to the longer day of labor, or to the more advantageous conditions under which American mines are worked.

The expenses of production other than the item of labor are much less in the United States than in England. They are given by the census of 1889 as follows: Labor, 72.94 cents per ton; materials, 8.34 cents per ton; other expenses of the mine, 7.04 cents per ton; work by contract, 0.92 cent per ton. It results from the above figures that the expenses only amounted to 16.3 cents a ton for about three-fourths of the coal production in the United States. It is to be remarked, however, that no mention is made of the taxes to be paid to the Government, which are in many cases as high in the United States as in England; of the depreciation and wear of the materials; of interest on the capital, and of other expenses which it is necessary to exactly determine in order to find the absolute cost of production. Besides these expenses, for which the elements of all estimate are missing, the cost of production of coal in the United States is consequently only 89.26 cents per ton of bitûminous coal, while the average price at the mine is given as 99 cents per ton.

In Germany, the cost of production of coal has shown a tendency to increase during these later years, partly due to the increase in wages and partly to the increase of taxes and burdens imposed by the Government upon the owners of mines.

According to semiofficial statistics recently published, we notice that in Westphalia, where the most important coal mines of Germany are situated, the cost of 1 ton of coal has increased from $1.17 in 1885 to $1.56 in 1894. During the same period wages rose from 68 to 87 cents per day, whence it appears that the increase in the total cost is due less to the increase in wages than to the influence of other factors. It must be observed that wages, which amounted to 59.13 per cent of the total cost in 1895, represented only 57.43 per cent in 1894, while the average wages per working day, which varied from 54 to 76 cents in 1885, rose to from 66 to 93 cents in 1894, according to different districts. One of the chief reasons for the increase in the cost of production has been the imposition of new burdens on mine owners—indemnities for accidents to workmen, income taxes, etc., of which the total for the mining industry alone amounted to $1,108,627.63 in 1884, and in 1894 to $4,401,262.60, or 5½ to 13½ cents per ton.

It is probable that the difference between the expense of labor and the total cost, or 38 cents per ton, is not higher in Germany than in England, but we must not forget that the taxes to be paid in England are much higher and that the regulations for the operation, inspection, etc., of mines there impose conditions much more oppressive. It is, however, not without interest to note that while the cost of production of coal in Germany has increased 33 per cent in 1895 as compared with the year 1884, the average rate of daily wages per workman only rose 19 per cent. On the other hand, it is to be remarked that the burdens known as "public charges" increased by 134 per cent in 1895 over 1884, a circumstance which has more or less hindered the growth of coal exports from the German Empire.

Belgium is the only other country of Europe whose economic situation presents any importance from an international point of view; but there is reason to state that the coal industry there is no longer in as favorable a condition as in England or Germany.

The average cost of production of coal in Belgium varies from $1.73½ to $1.81 per ton, or approximately 25 cents more than in England and Germany. It is even extraordinary that this difference is not greater, the annual production per workman in Belgium being only 160 to 170 tons, while in England it varies from 280 to 300 tons and in Germany 260 to 280 tons. The average cost of labor amounts to $1.08 per ton of coal extracted, and the total of all expenses reaches 67 cents per ton; the last figure is about the same as in Westphalia, in 1894, for expenses of the same nature. Likewise, as in Westphalia, but in a smaller degree, Belgian coal-mine owners have to support increasing burdens imposed by the Government, not to mention the cost of extraction at great depths and the precautionary measures taken for the security of workmen.

THE COST PRICE OF COAL.

The following observations are extracted from an article published in the last number of the Organe Industrielle of Liege:

Are we in Belgium not persistently trying to increase the cost price of our coal? On the one hand is labor agitation, which diminishes the effective force of the workmen; on the other are the communes (local governments) which are burdening our coal mines with special and exceptional taxes, and which have a daily increasing tendency to make them (the mines) pay imposts which ought in justice to be distributed among all citizens. Then, there are the courts, which, in a humanitarian spirit, always inclined to find the proprietor in the wrong, weigh down our enterprises with an excessive responsibility, in many cases allowing exorbitant damages. Finally, there are the prescriptive regulations, which become a source of expense; lawsuits, involving considerable expenses; regulation follows regulation; communal taxes are higher every year; the labor agitators continue their nefarious work and the workmen never cease to make extravagant requests. In short, the day will come when the cost price will be so high that owners will be obliged to sell with loss and when the deficit shall have attained certain proportions the doors of the establishments will close and the workmen will find themselves in the street. How many coal mines are there in Belgium where the cost price has not reached its last limits? How many will be obliged to close within a short time if this dangerous state of affairs does not change? Here is an inevitable disaster, for sale prices are determined by competition, and our agitators have not yet found a way to bring the buyer to pay dearer in one place for what he can obtain cheaper in another. Is it practical, then, to feed the communal treasuries with the product of taxes coming from owners, to demand an increase of wages, to speak of the minimum of wages, to have a legal limitation of the hours of labor? There will soon be no more industry, work, or wages; general misery will have been inaugurated.

THE PORTS OF GHENT AND OSTEND.

In view of the increasing traffic on the Terneuzen Canal and the improvements now in execution on the lock at its sea extremity, the city of Ghent has been recently discussing modifications to be made in its harbor and port facilities. It is proposed to provide accommodations for vessels of 460 feet in length, 50 feet in width, and 24 feet in draft.

An extract from Le Commerce et l'Industrie de Gand says:

> The maritime movement of our port is steadily developing. Even during this year an important increase is noted; during the first six months of 1895, 190,982 tons arrived in port; for the same period in 1896, 265,982 tons are registered. * * * It is proposed to construct a large basin, 1,350 meters long, 150 wide, and 8 deep, surrounded by banks, which, in accordance with the demands of commerce, may be transferred into quays. The latter are supported by embankments from 60 to 80 meters in width. * * * The cost to the city will be some 3,000,000 francs ($579,000). * * * The ports of Bruges and Brussels are already under construction, and we should lose no time if we do not wish to lose our commerce.

HENRY C. MORRIS,
Consul.

GHENT, *October 10, 1896.*

Consul Morris writes on February 12, 1897, that the port of Ostend is also to undergo extensive improvements. The contract will be awarded April 15. The cost is estimated at about $1,800,000. The contractors, it is said, will be obliged to give bonds for $90,000. All communications should be addressed "Ministre des Travaux Publics, Brussels."

BICYCLE REGULATIONS IN EUROPE.

Supposing that information in regard to the rules relating to the introduction of private cycles into European countries might be interesting and useful to tourists, I have the honor to furnish the following report:

FRANCE.

Duty.—The duty on cycles brought into France is $48.25 on every 222 pounds (about 25 cents per pound, dead weight).

Americans arriving in France with a cycle, not for sale, but with the view of cycling through the country, are required to deposit the same amount as if they were for sale. This deposit is returned, however, when the traveler leaves French territory. When the deposit is made, a lead seal is attached to the cycle, with the custom-house mark stamped on it. A tourist can leave the country by any frontier and reclaim the deposit. It is not necessary to inform the original customs bureau of the intention of leaving the country.

Tax on bicycles.—The law imposes a tax of $2 per annum on every cycle. The year commences on date of payment. In case of sale, the same tax will be collected from the purchaser without rebate. Residents are required to make a declaration at the mayoralty within thirty days after having bought or come into possession of a cycle. Should the declaration not be made within the time specified, the tax will be doubled. This tax is only collectible from residents. Tourists are not required to pay it. The revenue from this tax amounted in 1896 to 1,000,000 francs. This money is applied to the improvement of the public roadways.

By a ministerial decree of March 1, 1896, many of the obnoxious restrictions formerly imposed upon cycling have been removed. This is mainly due to the activity of the Touring Club de France. Below will be found a synopsis of this decree, which applies to cycling in the whole of France:

Each wheel must be provided with a gong or bell capable of being heard at a distance of 50 yards. A plate bearing the name and address of owner must be attached to cycle. Lanterns must be lighted at sundown.

Cyclists must take the right on meeting a vehicle, and when passing one, must take the left, decreasing speed and sounding the bell.

Drivers of vehicles and men on horseback must go to the right on approach of a cycle, so as to leave the cyclist a space of at least 5 feet in width.

In crowded thoroughfares, the cyclist must dismount and lead his wheel.

It is forbidden for cyclists to form groups so as to obstruct the public ways or pass through funeral cortéges or military processions.

Cyclists are forbidden to cycle on pavements and footpaths reserved for pedestrians, except in the country, where the roads are paved or being mended. In cases where it is permitted to cycle on the footpaths, the cyclist must moderate his speed when meeting pedestrians.

Transportation by railroad.—The Minister of Public Works has issued a decree requiring all French railroads to transport cycles as baggage and making them responsible for any damage. The amount of indemnity depends in which class (first, second, or third) the cyclist is traveling.

GERMANY.

Duty, $5 on every 222 pounds, being about 3 cents per pound. No restrictions are placed on tourists and no deposit is required.

AUSTRIA.

Duty, $12.06 each, when imported for sale.

By a recent decree, $10 must be deposited by the tourists at the custom-house. They are also required to make and swear to a declaration that the wheel in their possession is not for sale and that it is their intention to remain only temporarily in Austria. When leaving the country, this deposit will be refunded.

BELGIUM.

Duty, 12 per cent ad valorem.

Tourists are required, on reaching Belgian territory, to make a deposit at the custom-house of a sum equivalent to 12 per cent ad valorem. This amount will be refunded when they leave the country. By a ministerial decree of February 11, 1896, members of the Touring Club de France are exempt from this deposit, provided they do not remain in the country over six months.

On leaving Belgium, do so through a frontier town where there is a custom-house; present the receipt and the money deposited will be refunded. If leaving Belgium for France by railway, two or three days before doing so write to the custom-house officer at Quévy (frontier town and custom-house), inclose your receipt, and inform him on what train you expect to pass through Quévy. He will stamp the receipt and after assuring himself that the cycle mentioned in the receipt is in the baggage van, he will refund the amount of the deposit. This is necessary, as the train only stops at Quévy a few minutes. The same formality is to be observed when leaving Belgium for Paris via Erquelinnes.

DENMARK.

Duty, 10 per cent ad valorem.

Tourists must make a deposit at the custom-house equal to 10 per cent ad valorem as a guaranty that the wheel is not for sale. See that custom-house officials place a lead seal on cycle. Amount of deposit is refunded only at the custom-house where entry was made, unless a special permit is obtained allowing the cyclist to leave via another customs bureau.

EGYPT.

Duty, 8 per cent ad valorem.

Same formality as in Denmark. Do not fail to get receipt for money deposited. Only 7 per cent will be refunded.

ENGLAND.

No duty.

GREECE.

Duty, $2 each.

Cyclists are required to pay, first, an octroi duty of 40 cents, payable at bureau of entry and reimbursable; second, duty of $2. This will, however, be refunded, less $1 for expenses, and also a small supplement if the cyclist does not leave the country by the same custom-house.

ITALY.

Duty, $8.11 each.

Tourists are required to deposit the above amount as a guaranty that the wheel is not for sale. The money is refunded on leaving the country. Members of the Touring Club de France are, however, exempt from any duty or deposit. On presentation of card of membership, a free pass will be delivered. On leaving Italy, however, it will be necessary to inform the custom-house officials, who will require the member to deliver his pass. If a member of the Touring Club de France fails to do this, he will become responsible for the amount of duty.

LUXEMBURG.

Duty, 6 cents per kilogram (3 cents per pound).

A deposit is required. Members of the Touring Club de France are exempt.

NETHERLANDS.

Duty, 5 per cent ad valorem.

Tourists enter without having to make a deposit or pay duty.

PORTUGAL.

Duty, 27 per cent ad valorem.

Same as in Denmark. Can leave country, however, by another frontier station.

ROUMANIA.

Duty, $1.55 each.

Same as in Portugal and Denmark.

RUSSIA.

Duty, $7.80 each.

Same as in Portugal and Denmark.

SPAIN.

Duty, $13.52 per 222 pounds (about 6 cents a pound).

The tourist entering Spain will be given a temporary pass of six months' duration, for which 20 cents is charged, besides the regular deposit of duty. This deposit will be refunded on leaving the country.

The importation of cycles gives rise to many obnoxious and worrying formalities. It is, therefore, wise to obtain the services of a commissionaire on the frontier or an international custom-house broker at Hendaye or at Cerbére (frontier towns). This will save much trouble. If a mistake is made in the declaration, the amount of duty will be forfeited and a fine imposed.

SWEDEN.

Duty, 15 per cent ad valorem.

Cyclists have to make a deposit of a sum equivalent to 15 per cent ad valorem. In estimating this duty, packing, insurance, and freight charges are taken into account. When the cyclist enters Sweden via the customs bureaus of Stockholm, Gothenberg, Malmo, Landskrona, Helsingborg, Stonistad, Charlottenberg, or Storlim, there are no special formalities to be observed. If, however, he enters by any other customs bureau, a letter will have to be addressed to the director-general of customs asking permission to enter. In order to have the deposit refunded in this case, the cyclist will have to leave the country by port of entry. In other cases, the deposit will be refunded by one of the above-mentioned custom-houses. If the tourist remains over sixty days, the deposit is forfeited.

SWITZERLAND.

Duty, $13.52 per 222 pounds (about 6 cents per pound).

A deposit is required. Members of the Touring Club de France are exempt. The conditions are the same as in Italy.

TURKEY.

Duty, 8 per cent ad valorem.

Same formalities as in Egypt.

MISCELLANEOUS.

It would be greatly to the advantage of American cyclists coming to France to join the Touring Club de France. This organization is similar to cycling societies in America. The advantages to members are numerous. The most important consideration is that a member can enter this and other European countries without obstruction from the customs officials. By simply exhibiting a card of membership, all annoying formalities are avoided. A large discount is given at certain hotels, especially in the provinces. The same applies to repair shops and dealers in cycling goods. By wearing the badge, one is assured of courteous treatment everywhere. The subscription is $1 per year and 20 cents extra for an official guide giving names of hotels, repair shops, etc., where liberal (generally 10 per cent) discounts are allowed. The membership to-day numbers 40,000.

The Touring Club de France has done more since its foundation for the encouragement of cycling in France than any one other organization. The money derived from the subscriptions is expended in repairing the departmental roadways and placing notices (danger signals) on the crest of all dangerous and rapid descents. In all the towns and cities in France a representative is to be found who will willingly give advice to strangers and aid them in trouble. The headquarters of the Touring Club de France are situated in Paris, Rue Coy-Héron 5, at which place application can be made for membership. Ladies are eligible to membership.

There are other good clubs in France, such as the Union Vélo Français, Union Vélocipedique de France, 19 Rue des Bois Enfants, Paris; subscription per annum, $1.20. The Omnium, 35 Rue Spurtini, Paris; entrance fee, $24 and an annual subscription of $24. Another is the Rally Vélo, 4 Rue de Chartres, Porte Mailloy, Neuilly-sur-Séine; annual subscription, $20 for gentlemen, $10 for ladies.

The following notice appears in the journals of to-day:

> The French authorities will not put a duty on cycles that are brought into the country for a short time. A return ticket or a card of membership of some touring club will be sufficient evidence to the customs authorities that the cyclist is a bona fide tourist, though it is right that he should know that the duty chargeable can be insisted upon, but it would be refunded to him on his return.

PHILIP S. CHANCELLOR,
Deputy Consul.

HAVRE, *March 18, 1897.*

FLUID AIR FOR INDUSTRIAL USES.

Liquefying air is not a new thing; it has been performed by exerting enormous pressure or by freezing air to an unusual degree, or by a combination of pressure with refrigeration. There are so many uses to which liquefied air can be put that scientists hardly know where its usefulnes will end if it can be produced at a low rate of cost in commercial quantities. This a new method and machine has accomplished.

Among other advantages, air in the portable, cheap form of a liquid, as it passes back to its ordinary state, can be used for illuminating purposes by mixing its escaping gases with atmospheric air in certain definite proportions. Moreover, as a driving force in the way of detonators or explosive material to drive engines, liquid air is obviously a power that can be, under given conditions, profitably applied.

Hitherto the classic example of a method to liquefy air and obtain oxygen has been that invented by Beatty and Cailletet in 1877. With their machine, one began with carbonic-acid gas. By means of a pump this gas was condensed in a tube, round which lay water at 10° to keep the tube cool. The carbonic-acid gas, being reduced to a very low temperature, passed from the first tube into another chamber with a tube in it, and in so doing fell to a lower temperature.

Into this second tube was pumped at high pressure ethylene gas, which, in turn, fell to a low temperature, owing to the coldness of the carbonic-acid gas bathing the tube. The ethylene gas was then passed from the second tube into a third compartment and fell further in temperature in so doing The third compartment had likewise a tube with an air pump attached. Into this third tube was pumped oxygen gas and from the ethylene gas bathing it the oxygen gas reached a temperature of 192° below zero. Finally, the oxygen was let out into a fourth compartment, in which was a fourth tube. The air pump attached to this fourth tube having filled it with condensed atmospheric air, the latter was so reduced in temperature that when it in turn was released from the tube, its cold was 273° below zero, and it appeared in the form of drops like water.

This product, which is called liquid or fluid air, has a milky appearance from the presence of some carbonic-acid gas, bubbles constantly, and from its enormous cold emits a smoke or cloud like the top of a very high mountain, and will only gradually resolve itself again into air when exposed to the ordinary atmosphere.

Fluid air costs about 10 marks (say $2.25) for 5 cubic meters reduced. The new method is the invention of Professor Linde, of Munich. It produces the liquid for 10 pfennigs (say 2¼ cents) for 5 cubic meters, and it yields the product either as a gas or fluid, as one wishes. This is one of the most ingenious pieces of mechanism recently known ; its chief feature is its economy of working, for it uses air to refrigerate air. After the pump has worked for a certain time, one turns a cock and the liquid air runs out at a temperature of 273° below zero.

In Professor Linde's method, an air pump of 5 horsepower condenses air to a pressure of 200 atmospheres; this air passes down a spiral tube and is let out in a chamber, causing great cold; then it rises and passes on the outside of the spiral tube, bathing it and thus cooling the new air that has been pumped into the tube to take its place. This cooled air follows on into the chamber, expands and again lowers its temperature, then passes on up around the same spiral tube; but as its temperature has become much lower, the new air in the tube is still further refrigerated. This circulating process goes on, until the new air pumped into the tube reaches the expansion chamber at a temperature of 273° below zero, when it drops into the chamber in the form of liquid. Thus the air, steadily cooled, is made to refrigerate the newly pumped air more and more, until the necessary degree of cold is attained.

Another idea, which may or may not be an improvement, is to have the pump and all parts of the machine kept very low in temperature.

Air in the cheap, portable form of a liquid rich in oxygen can be used for many purposes in manufactures and the trades. The discovery of a cheap method may be of importance to American manufacturers.

CHARLES DE KAY,
Consul-General.

BERLIN, *March 11, 1897.*

WINE PRODUCTION OF FRANCE.

The statement was made in a report sent to the Department of State, dated July 24, 1895, by C. W. Chancellor, consul at Havre, that much of the so-called wine made in France was "perfectly innocent of any acquaintance with the product of the vineyard." It was alleged that 15,000 casks of wine had recently been destroyed by the municipal laboratory of Paris, the official inspection having failed to reveal a drop of grape juice; the constituents, it was said, were water, alcohol, sulphate of gypsum, glycerin, salts of potash, and berries for coloring. Consul Chancellor further stated that immense quantities of sugar were used for mixing with the wines (amounting in France in 1887 to 36,000 tons) and the deficit in production caused by the ravages of the phylloxera had been supplied by making wine from raisins, currants, and the lees of the wine press.

This report was published in CONSULAR REPORTS, September, 1895, and on December 2, 1896, M. Hanotaux, French Minister of Foreign Affairs, called the attention of the United States ambassador in Paris to the fact that the Bordeaux Chamber of Commerce had entered protest against the allegations contained therein. M. Hanotaux said that official investigation had developed the fact that the municipal laboratory denied ever having taken any action of the nature mentioned. Inquiry was made of Consul Chancellor, and the latter, in a communication to the Department of State, dated February 8, 1897, referred to debates in the French Chamber of Deputies, November 6, 1896, in which "the question of taxing artificial wines" was discussed, and explained that his statement in regard to the alleged action taken by the municipal laboratory of Paris in destroying certain casks of wine was obtained from "a reliable English journal," the name and date of which, however, he was unable to remember. He also stated that in 1887 he was commissioned by the governor of Maryland to investigate certain sanitary problems in Europe, and while in Paris, visited the wine sheds. There, he was told that a large number of casks of wine had been condemned and would be destroyed; also, that this action was not unusual. In respect to his comment upon the quantity of sugar used in the manufacture of wine, Consul Chancellor quoted from a speech made by M. Viljean in the Chamber of Deputies, November 6, 1896, published in Le Petit Havre of November 7, in which M. Viljean is reported to have criticised article 1, which suppressed the manufacture of wine from the lees of the wine press, on the ground that this suppression would be "ruinous to viticulture and injurious to agriculture, since by this process of manufacture, 100,000 tons of sugar are consumed annually."

In reply to the above, the following statement is made by the French embassy at Washington, under date of March 8, 1897:

The attention of the French wine merchants has been called to a report entitled "Wine making in France," published in the CONSULAR REPORTS, No. 180, September, 1895, by C. W. Chancellor, United States consul at Havre, France, and containing some incorrect statements which might cause prejudice to French commerce and which it seems desirable to rectify.

(1) Mr. Chancellor, having probably in mind the decrease of wine production from which France suffered during a long period after the appearance of phylloxera, says that large quantities of wine fabricated in France contain no grape juice. Statistical information shows that over 4,000,000 acres of vineyards were partially infected by the plague during the last twenty years, 2,000,000 of which were already replanted up to 1895. On the other hand, the production of wine has been in the last two years exceptionally abundant, as will be seen by the following official statement:

Year.	Vineyards area.	Total production.	Total value.	Average value per gallon.
	Acres.	*Gallons.*		
1895	4,153,000	713,300,000	$162,150,000	$0.22
1896		1,183,388,000	286,830,000	.19

It is hardly credible that when such enormous quantities of natural wines are produced, French merchants would resort to the fabrication of artificial wines containing no grape juice; such fabrication could be profitable only in countries producing no wine or but little.

(2) Mr. Chancellor, referring to information published in an English journal and reproduced afterwards in American papers, added that the French Government recently destroyed 15,000 casks of adulterated wines.

From an official inquiry, it appears that there is no record at the municipal laboratory of Paris of such destruction. The occasional seizure and destruction of small quantities of adulterated wines are rather to the honor of the French Government, which thus protects the health of its citizens. Measures have, besides, been taken for the purpose of prohibiting overalcoholization of wines and the addition thereto of water or of any element whatever of adulteration.

It may be added that, according to medical inquiries made by highly competent authority, a moderate consumption of French wine is beneficial to public health. The official statistics in this regard are worthy of attention; they show that drunkenness is less frequent in wine-consuming regions. Out of 100 cases of public drunkenness, punishable by the law of 1873, 29 cases were recorded in the northwest of France and 34 in the north, where spirits are mostly consumed; while 9 cases were recorded in the center, 5 in the southwest, and only 4 in the south, where the use of wine among the laboring classes is general.

FRENCH VINTAGE OF 1896.

According to the Bulletin de Statistique, an official publication issued periodically by the Minister of Finance, the total quantity of wine made in France from the vintage of 1896 amounted to 1,179,364,960 gallons. This shows an increase over the crop of 1895 of 468,066,880 gallons and an increase over the average crop of the last ten years of 373,410,990 gallons. The approximate value of the crop of 1896 is estimated at $234,800,000.

In the province of Algeria, last year's vintage showed a production of 106,960,500 gallons, while in Corsica, 7,923,000 gallons were barreled.

Notwithstanding the somewhat unfavorable atmospheric conditions which prevailed during the greater part of the year throughout France, the quality of the crop of 1896 is particularly good. The wines have the requisite amount of sugar, alcoholic strength, and body. They are rich in color, and, with a few rare exceptions, are sure to turn out of exceptional excellence.

SPARKLING WINES IN THE MÉDOC.

One of the principal landed proprietors of the Médoc, Mr. Nathaniel Johnston, has, during the last few years, been making, with a marked degree of success, a sparkling wine equal to that produced in Champagne. The wine for the most part is made from the same quality of grapes as are used in making claret.

It is not generally known that sparkling wine can be made from the same fruit that produces médoc and burgundy; but such is, in fact, the case. Red wines are allowed to free themselves of the gas produced by fermentation in the vat, but sparkling wines are made to ferment in the bottle, generating in this way their carbonic-acid gas.

Since the first Crusade, champagne, or the peculiar product which has taken its name from that province of France, has been a popular beverage throughout the length and breadth of civilization. Toward the commencement of the sixth century, when it was customary for every monarch to have a vineyard of his own, Henry VIII, Francis I, and Pope Leo X were each and all possessed of vines in Champagne. Then it was that doctors, gourmets, kings, poets, and epicures began to dispute as to the relative merits of champagne and burgundy. The comparison between the two wines at that period was more readily made than at present, for champagne was a still wine. It was red, full of body, and did not sparkle. It was left for a modest monk to perfect the already favored beverage.

To Dom Pérignon, we are indebted for the discovery of the fact that if wine harvested in autumn is bottled in the following spring it will sparkle without the aid of artificial encouragement.

Following the principle, accepted in the Champagne district, that in order to produce a good sparkling wine, you must blend the product of several growths, the wines of which Mr. Johnston's sparkling médoc is made are of quite different origin from each other. The heavy gravels of St. Julien, the light sables of Labarde, and the rich alluvial land (Palus) of Macau (which may be considered as the three types of the soil of the Médoc and each of which enjoys a special reputation) contribute their various proportions.

As for the quality of these vines (black grape), they are the most valued plants in the Médoc. The grapes, plucked with the greatest care, are immediately pressed, so as to obviate any fermentation in the mass before the separation of the juice from the pulp and skin, which contain the coloring matter. The juice still appears slightly rose colored, but in the casks, in which a little sulphur has been burned, it loses even this slight tint. Fermentation begins the next day, and the must is drawn off into other casks, so as to separate it from the scum and the dregs. Being only checked by this operation, the fermentation recommences and continues until January, when the cold weather stops it. It is then time to draw off again and to mix in proper proportion the different wines.

The cellars of the Médoc, on account of the nature of the soil, do not offer the conditions necessary at this stage; that is, coolness and an unvarying temperature of 10° C. The wines are therefore removed by boats to the other side of the River Gironde, where, in the cliffs of Bourg, are old calcareous quarries, transformed into perfect cellars, quite recalling in their arrangement and their storage capacity those of Epernay. Here takes place an important and delicate operation, which consists in the addition of a certain fixed quantity of "liqueur de tirage," *i. e.*, wine in which a little crystallized sugar has been dissolved. The germs of fermentation retained by this blend transform the sugar into alcohol and carbonic acid, and convert the mixture into a sparkling wine. Then begins the bottling, followed by the "mise sur points," or the inverting of the bottles, which lasts at least until the following summer and sometimes even for five or six years, and by an appropriate manipulation allows of the removal of the small amount of deposit which has formed for the last time. At last, immediately before the corking, sealing, and labeling, a little sweet liquor is added, called "liqueur d'expédition," varying in quantity according to desire for "dry" or "sweet" wine.

J. M. WILEY,
Consul.

BORDEAUX, *February 15, 1897.*

NEW CUSTOMS REGULATIONS IN COLOMBIA.*

I inclose translation of a circular issued by the Treasury Department of Colombia relative to the manner in which the duties imposed in the new tariff regulations shall be levied.

JOHN BIDLAKE,
Consul.

BARRANQUILLA, *March 30, 1897.*

REPUBLIC OF COLOMBIA,
TREASURY DEPARTMENT,
Bogotá, February 27, 1897.

MR. COLLECTOR OF CUSTOMS: This day the following resolution has been put in force:

The increase and the diminution of the import duties referred to in articles 1, 2, 3, and 4 of law No. 160 of 1896 will commence to be put in practice on the 19th of April of the present year, in accordance with articles 205 of the constitution and 61, 62, 64, and 65 of law No. 149 of 1888. Said increase, or, say, the amount which has to be charged more than the duties which are laid down in law No. 36 of 1896, with the reformations which have been made up to the present, inclusive of those of the fourth article of law No. 160, already referred to, must be liquidated separately, computing only the primitive duties laid down in the same law No. 36 without the reformations referred to.

This having been done, the augmentation referred to must be summed up with the other duties to which allusion has been made and the total of this liquidation must be charged with the 25 per cent mentioned in article 1 of law No. 88 of 1886 and article 1 of law No. 185 of 1896.

I make this communication to you for your information and the corresponding effects.

* * * * * * *

JUSTINIANO CAÑON,
Subsecretary, etc.

---

* See "New tariff of Colombia," p. 1.

TELEGRAPHIC SIGNALING ON BOARD SHIP.

The invention of an electric telegraphic apparatus, to be used on board ship in communicating orders from the bridge to the engine room or other parts of the vessel, has been brought to my notice during the past few days. The apparatus in question was invented by two electrical machinists employed until recently in the royal arsenal here, Messrs. Rodolfo Farinato and Antonio Sartori, and, so far as can be learned, possesses decided advantages over the method at present in use on board merchant vessels and ships of war.

I inclose a photograph* of the dial of the indicator, if such it can be called. The superiority of this over other systems of telegraphic signals is the extreme simplicity of its mechanism, the facility with which it can be operated, and the limited cost of introduction and maintenance, as a battery of only twelve Leclanché cells are necessary, which, besides furnishing ample electricity for the signals proper, is sufficient to work the automatic call bells which form part of the signaling apparatus.

The mode of operating this system of signaling is as follows: A circular dial, having a pointer and a movable handle, is placed at a convenient post on the bridge or any other part of the vessel. This dial can be placed either against a bulkhead or partition or upon an upright column. The circumference of the dial is divided into twelve parts. The top and bottom divisions contain the word "arresta" (stop), while the right-hand semicircle contains the words of command for going ahead, as slowly, half speed, full speed, etc., and the left-hand semicircle, similar orders for going astern. Another dial, identically the same, is placed in the engine room or any other part of the vessel where orders are to be given from the bridge. When it is desired by the officer in command to send an order, say, to the engine room, he simply turns the handle until it rests upon the word of command desired. By this movement, the pointer on the corresponding dial in the engine room is made to indicate the word of command given, and at the same time the automatic call bells commence ringing, both on the bridge and in the engine room, till the engineer moves the handle of his dial until it comes into coincidence with the pointer, at which instant the call bells cease ringing and the pointer of the bridge dial points to the order as having been executed, in this way making it impossible for any error in understanding the command to occur. The same process is pursued in the execution of any of the words of command on the dial.

---

* Filed in Bureau of Statistics, Department of State.

The inventors of this apparatus claim that they are acquainted with the systems of signaling orders at present used on board of the ships of all the principal nations, and that theirs is superior both as regards promptness and security of action. All the internal component parts are covered with silver and platinum and the exposed parts are nickeled, thus guarantying perfect working and impermeability.

Besides being used to communicate orders from the bridge to the engine room, it can be used between the engine and fire rooms, greatly facilitating thereby the quick transmission of orders.

On board of large vessels of war, it can be used with great advantage in communicating from the bridge to the different ammunition magazines, and for this purpose the dial can be placed so as to be visible in the same manner as the electric lights for illuminating the magazines. Of course, the apparatus being patented at present only in Italy, it is impossible to have from the inventors other than a simple description of the method of operation. Messrs. Balti & Co., of Venice, have the exclusive privilege of manufacturing this article, both for Italy and abroad.

I do not know what system is at present used by our naval authorities, but I forward this brief notice to the Department, with the suggestion that their attention be called to the matter, and in case any further information should be desired, I could take steps to procure it.

The apparatus was tried the other day, by way of experiment, by the Italian naval authorities here on board the *Governolo*, and, so far as can be learned, gave most satisfactory results.

H. A. JOHNSON,
Consul.

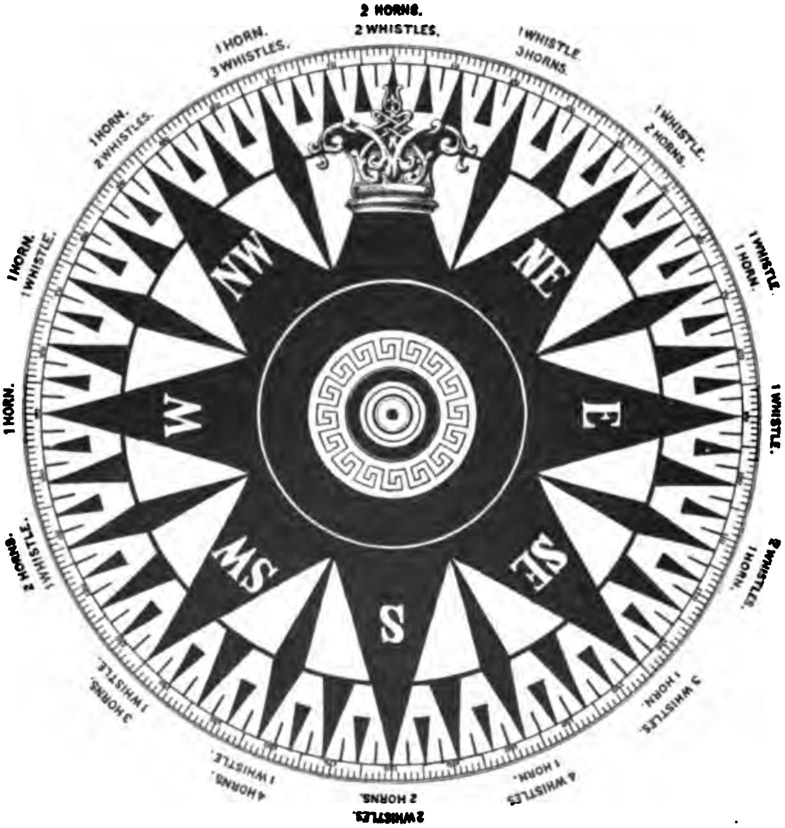
VENICE, *November 11, 1896.*

FOG SIGNALS FOR STEAMERS.

Among the greatest dangers to navigation is collision caused by fog. This danger arises principally from the fact that, while one ship can hear by signals that another ship is near or approaching, neither vessel can determine in what direction the other is moving.

To overcome this difficulty as far as possible, I beg to call attention to a system of "fog signals for steamers" consisting of sirens of two different sounds (whistle and horn), by means of which a steamer is constantly enabled to signal the course she is steering.

As the principal courses over the Atlantic and also over the North Sea and Baltic are toward the east or west, I have taken one sound of a whistle to indicate a due easterly course and one sound of a


2 HORNS.
2 WHISTLES.
1 WHISTLE
3 HORNS.
1 WHISTLE.
2 HORNS.
1 WHISTLE.
1 HORN.
1 WHISTLE.
2 WHISTLES.
1 HORN.
3 WHISTLES.
1 HORN.
4 WHISTLES
1 HORN.
2 WHISTLES.
2 HORNS.
4 HORNS.
1 WHISTLE.
3 HORNS.
1 WHISTLE.
2 HORNS.
1 WHISTLE.
1 HORN.
1 HORN.
1 WHISTLE.
1 HORN.
2 WHISTLES.
1 HORN.
3 WHISTLES.
NW
NE
E
SE
S
SW
W

horn to indicate a due westerly course. All other courses to the eastward begin with sound of whistle followed by sound of horn, and all other courses to the westward begin with sound of horn followed by sound of whistle.

For a complete understanding of my system, reference is made to the accompanying chart, which is self-explanatory.

To provide steamers with sirens of two different sounds will cost only a trifle, and I can not help thinking that the system is so plain and simple that, if it should be adopted as an international rule, it would greatly lessen the danger of future collisions and proportionately save life and property. Before presenting the system to the American Government, I have consulted several shipmasters and marine officers, and they all concur in this opinion.

In view of the fact that the new international rules of the road go into effect on July 1, 1897, I have the honor to bring the system to notice, that it may be referred to the proper Department for such consideration as it may deserve.

ALFRED CHRISTENSEN,
Consular Agent.

ELSINORE, *January 18, 1897.*

ECONOMIC AND SOCIAL PROBLEMS IN EUROPE.

The recent monetary and fiscal discussions in which our country has been engaged have not been without influence on other nationalities. Articles on educational, financial, and commercial questions are being published in newspapers and magazines all over Europe. Very recently, and almost simultaneously, four small volumes have appeared in England and France relating to the practical application of the experience obtained during the last decade on these several questions, and in all countries, certain parties are apparently alive to the fact that the present fiscal conditions can not continue without considerable modification.

In the first of these books, The Foundations of Success, Mr. S. de Brath, the author, emphasizes the idea that the system of education at present in vogue is very imperfectly adapted to the real conditions of modern civilization. Measuring success by no sordid or material standard, but by the fitness of the citizen to discharge the duties—personal, industrial, and social—of citizenship, he starts with the assumption that the foundations of success, either personal or national, are to be sought in a system of "rational education." He says:

> A successful nation is made up of successful units, and I have had primarily in view the parents who, having to think first of their childrens' success in life, are

dissatisfied with existing conditions. After an education costing at least £1,000, a large number, perhaps a majority, of boys leave school knowing nothing but a moderate amount of Latin and Greek, and the rudiments of half a dozen other "subjects," in none of which they take any real interest or can stand any test. Many parents also desire for their children more practical and even manual training, more development of the social and artistic side of human nature, and a better acquaintance with the treasures of modern languages.

The leading principles of a rational education, as proposed by Mr. de Brath, may be summarized as follows:

(1) That all instruction and occupation shall be coordinated; that the learners shall be as far as practicable brought into contact with the things about which they learn, rather than with descriptions of those things, and that the influence of surroundings, rather than mere instruction, be depended upon for mental and moral development.

(2) That relief from overpressure shall be obtained by limiting brain work for juniors to a weekly average of four and a half hours, and for seniors to five and a half hours, per day.

(3) That economy of time be secured by employing only the best educational methods, apparatus, and teachers.

(4) That the practical and manual side of education be developed side by side with the intellectual and social, not with the view of turning out amateur mechanics, but to insure that all knowledge is put to use and that skill and handiness are acquired.

(5) That at least one foreign language be taught conversationally and thoroughly.

The second of the volumes, The Struggle of the Nations, by Professor Maspero, shows how the buried civilization of the East has been recovered and reconstructed, while in the track of war and modern diplomacy have come trade and commerce. Egypt is now covered with roads, along which the merchant and the courier travel in pursuit of commercial interests, and the land of the Pharaohs is placed in touch with the civilization that surrounds it.

In the third book, entitled Made in Germany, the author, Mr. E. E. Williams, presents his views on the relation of German education to the commercial success of Germany, and directs public attention to the increasing importance of German commercial competition. The conclusion at which Mr. Williams finally arrives, after considering the phenomenal growth of German commerce, is that England should discard her free-import system and return to protection, coupled with commercial federation. He also calls attention to certain weak points in the English industrial system. One of these is the lack of scientific and technical training; another, he says, arises from the national characteristic of "unreadiness;" another is the supineness engendered by a long career of prosperity;

and, lastly, the perplexing problems which arise from the rapid economic changes which are constantly taking place.

In criticising these propositions, a leading English journal says:

> It would no doubt be unwise to ignore Mr. Williams's arguments altogether, but the true moral to be drawn from them is rather educational than economical. Success in trade depends on a right understanding of its conditions. Englishmen are not likely to be beaten in the commercial competition unless they allow themselves to be distanced in the intellectual competition which underlies it.

Mr. G. W. Medley has written a pamphlet in reply to Made in Germany, which is issued under the auspices of the Cobden Club.

From a commercial standpoint, the most interesting of the publications above referred to is that of Mr. Maurice Schwob, editor of the Phare de la Loire, entitled Le Danger Allemand, concerning which the Times review says:

> This is a vigorous and telling sermon preached to French merchants and public men from the same text as that from which Mr. E. E. Williams has lately been preaching to English merchants and public men in his Made in Germany. The author is apparently distressed and alarmed at the progress of German commercial enterprises and at its very serious rivalry with French commerce in the markets common to both. He examines the statistics of trade and reports of French consular officers in all parts of the commercial world, and everywhere he finds French commerce declining and German commerce making its way. In the consular reports, he finds nearly everywhere the same explanation of this distressing phenomenon. German merchants take immense pains to understand and adapt themselves to the conditions of trade peculiar to the locality; they employ intelligent and energetic agents; they do not despise small orders; their Government aids them in a variety of ways, instead of thwarting or ignoring them altogether. In a word, they understand their business and pursue it with energy, with indomitable industry, with a scientific adaptation of means to ends, and, above all, with a trained intelligence which enables them to understand the conditions with which they have to deal. French merchants, on the other hand, are, according to Mr. Schwob, less intelligent in their study of the conditions, more wedded to routine, more inclined to trade in their own way or not to trade at all, less inclined to accept small orders, less flexible in the adaptation of their methods to local conditions and requirements.

Mr. Schwob does not assign protection as one of the direct causes of the comparative decline of French foreign trade, and professes to be neutral in the controversy between free trade and protection. But it is evident from his pages that he thinks the protectionist policy of France has something to do with the matter, and he points out that "the exclusion of Spanish wines from France by a tariff framed in the interest of French wine growers was immediately followed by a large development of German trade in the peninsula." However, since France and Germany are both protectionist countries and England still adheres to free trade, the protectionist issue may be eliminated from a consideration of the question. Why does German trade appear to be increasing largely at the expense of France and to some extent at the expense of England? The reason appears to be that both France and England have in some respects been caught napping. "German competition," says the Times, "has come upon them almost unawares and has introduced new methods based on a keener and more scientific study of the conditions involved." If this be so, it affords a striking illustration of the views propounded by Mr. de Brath in the work noticed above on the deficiency of English educational methods.

Mr. Schwob points to the technical education of Germany, at once thoroughly scientific in methods and strictly coordinated to practical ends, as one of the main causes of German commercial development, and Mr. Williams's Made in Germany abounds in the same thought as regards England and Germany. Mr. de Brath, however, insists not so much upon technical education as upon an education conducted in a scientific spirit and based upon a rational harmony between the individual and his environments—social, moral, and intellectual. This is what Germany has in a higher degree than either England or France, and one of the results is seen in the success of German trade. Intelligence and energy are both needed for the maintenance of commercial supremacy and even of commercial equality. The intelligence needed is not so much the native gift of quickness and alertness of mind, in which France has perhaps no rival, as the result of education and training, scientifically based upon and coordinated with the conditions of modern life and its activities, intellectual as well as practical. In this, Germany is perhaps supreme. Both Mr. Schwob and Mr. Williams point to Germany's belief in knowledge and her courageous embodiment of that belief in her method of education as one of the main factors in the development of German commerce.

Next to her struggle for commerce and her threatened depopulation, the most alarming symptom for the future of France is the increasing number of public officials and members of the so-called liberal professions. No statement can be more eloquent than a document recently published in the Official Bulletin issued by the municipal council of Paris. It contains returns of vacancies in the different administrations and government offices of the department of the Seine, together with the number of candidates. There are said to be 375 vacancies every year in the corps of street sweepers. This is an humble calling, but it is "something under the government," and that is enough to make it envied. There were, in October last, 21,562 candidates for these positions, most of them recommended by a deputy, senator, or at least a municipal councilor. For 115 vacancies for schoolmistresses in the kindergarten schools, 6,947 are awaiting their turns. For 72 places as public school teachers, there are 1,955 candidates duly qualified. Eight junior clerkships in a municipal office are wanted by 2,000 young men, all of whom have spent five or six years at school. For 18 places of office servant, 5,842 applications have been registered. Such figures need no comment. But, after all, when we consider that the liberal professions and other private occupations afford a prospect little better than starvation, the desire to enter government service, overcrowded and underpaid, but safe and respectable, is not surprising, since these positions are practically permanent and also afford a prospect of pensions in old age—a scheme which is now attracting great attention in Europe.

The movement in favor of a system of insuring wage earners against ill health, accidents, and old age began in Germany in 1881, but it was not until 1883 that the first law was passed. The latter compelled the wage earner to insure against sickness; the obligation rests on the wage earner himself, and the law insures him free medical treatment from the commencement of his sickness and half wages for thirteen weeks. After that period, the sick law ceases to operate, and he comes under the provisions of the law for insuring against accidents, which was passed in 1884. This law throws the obligation of insuring on the employer in whose service the workman is disabled or injured. The law of 1884 was a tentative effort and applied only to those trades in which accidents were most frequent; in 1885, it was extended to a much larger class, and made to cover also workmen employed by the State in the railway, post, telegraph, and naval and military administrations; in 1887, it was further extended to all persons concerned in marine occupations; and now, insuring for old age is the last development of this vast scheme of State socialism.

In England, a committee of experts, with Lord Rothschild as chairman, has been charged with the duty of examining into plans which may be submitted to them for providing old-age pensions. They are to prepare a report embodying a practical scheme for such pensions. Through the courtesy of Mr. Henry C. Burdett, of London, founder of the Royal National Pension Fund for Nurses, I have been furnished with the outline of a plan which he has submitted. Mr. Burdett enters minutely into the actuarial question involved in making provision for the old age of the working population. He considers $90 a year a minimum amount. He takes as a basis the assumption that a man earning 20s. a week ought to be able to set aside 1s. a week, or 52s. a year, as a provision for old age. Such a man, putting 1s. a week in the post-office savings bank for forty years from his twentieth birthday, would secure sick relief to the extent of 10s. a week when totally incapacitated by illness or accident during his working life; and at the age of 60, when the old-age pension commences, would have accumulated enough to buy a pension for the rest of his life of nearly £12 a year.

The sick pay during the years of activity is regarded as important, and Mr. Burdett proposes to secure it by arrangements between what are known as friendly societies and the State, whereby a premium of 14s. a week shall secure 10s. a week to each member in case of illness; there remains 38s. per annum as premium for the deferred pension, or about two-thirds of the sum which Mr. Burdett regards as necessary. The remaining third would have to be furnished by the State or by charitable bequests. The amount to be provided would be much less than the expenditure under the present system of taking care of the poor, and the latter would thus escape the workhouse or almshouse, against which a majority rebel. Of course, the scheme includes details that can not be given in a report of this kind. It makes provision for cases where the families consist of a large number of children, for married couples, for persons under 20 years of age, and for death allowances.

A practical solution is apparently offered of the difficult problem of making adequate provision for the deserving wage earner, who, under such a system, will escape the danger of pauperism.

To the managers of benevolent societies, to the clergy, to the employers of labor, to statesman and legislator, and to all who wish to promote the work people's best interests the suggestions of Mr. Burdett will be helpful in the formation of a practical plan to be applied in our own country.

C. W. CHANCELLOR,
Consul.

HAVRE, *January 1, 1897.*

PROFIT SHARING IN ENGLAND.

As supplementary to my report of the 1st of January, 1897, on the "Economic and social problems of Europe," it may not be amiss to call attention to a social experiment which has been successfully tried by the South Metropolitan Gas Company, of London, the details of which have been kindly furnished me by Mr. George Livesey, president of the company. In a letter inclosing certain documents for my information, Mr. Livesey says:

> I have given a great amount of consideration to, and have made some efforts to solve the question of reconciling capital and labor, and my experience on the labor commission, and also that of my lifelong connection with workingmen in my business, convinces me that the only solution lies in the direction of partnership—partnership in profits, in shareholding, in responsibility, and in management—the more complete the better. Conciliation and arbitration are good so far as they go, but

they are at best only palliatives. What is wanted is something that will remove the causes or the necessity for either the one or the other.

In another communication, under date of January 2, 1897, Mr. Livesey gives certain facts to show how the relations of capital and labor can be improved. He says:

Seven years ago, immediately preceding the difficulties of December, 1889, our profit-sharing scheme was launched, with the object of attaching the workmen to the company, of encouraging thrift, and in the hope that capital and labor in this undertaking might be reconciled. What has been the result? Since 1876, the company has been under the system known as the sliding scale, whereby the dividends are regulated by the price of gas—an increase of dividend being permitted when the price is reduced, while a diminution follows any increase in the price of gas. The profit-sharing scheme is simply an extension of the principle of the sliding scale to the employees. It takes the form of a percentage, dependent on the price of gas, on the salaries and wages of all officers and workmen, payable pro rata in cash annually. The condition of acceptance is willingness to enter into a contract of service for a limited period, not exceeding twelve months. It may be said, in passing, that these contracts are eagerly desired and greatly valued by the men. The bonus percentages during the seven years have been 5, 5, 3, 4, 6, 6, and 7½. The drop in 1892 was caused by a rise in the price of gas, and the jump from 4 in 1893 to 6 in 1894 was due to an increase in the percentage rate given on condition that one-half of each man's total bonus should be invested in the company's ordinary stock, the other half being payable in cash as before. The condition was accepted, and the total amount paid or credited to the profit sharers in the seven years is £82,000 ($410,000.)

The mere payment of a bonus is certainly beneficial to the employer, owing to its good effect on the workmen as such, but its distribution in cash does them little permanent good, therefore half its object is unfulfilled. To meet this, the directors, in their original proposal, offered to receive it, or any part of it, or any weekly or other savings—withdrawable at any time on a week's notice—on deposit at 4 per cent interest. It is very gratifying to state that about half the number of profit sharers, but more than half in amount, have, year by year, and many of them week by week, availed themselves of this opportunity for thrift, while some invested their savings in the company's stock. That so large a proportion of workingmen, skilled and unskilled, coming from all parts of the country, should, when the opportunity was given, prove to be thrifty, is some evidence that the general charge of unthrift so often made against their class is a libel.

The idea of making the workmen shareholders became a fixed purpose on reading of the Taff Vale engine driver, who, at the time of the strike on that railway, about the year 1890, refused to come out, remarking that "he could not strike against himself," he holding £5 ($25)* of the company's stock. The development of the idea into practice took form in the alteration of 1894, above referred to, and now all the officers and workmen in the regular employ of the company are shareholders. A large proportion—those who have saved from the start, in 1889—have an average investment of £50 or £60 ($250 or $300), while those who only began in 1894 range from £5 to £10 ($25 to $50). There is every reason to believe that they intend these investments to be permanent, for only in very exceptional circumstances do any of them sell their stock. Another very satisfactory feature is the fact that in almost all cases the stock is put in the joint names of husband and wife.

---

* The consul reduced the values in this statement at the rate of $5 per £1; the exact value of £1 is $4.866,5.

Roughly dividing the above total of £82,000 ($410,000), about £46,000 ($230,000) has been saved and £36,000 ($180,000) withdrawn and spent, part, without doubt, wisely and well, the remainder by the unthrifty, with little present and probably no permanent good; but the weekly and other savings of the thrifty, plus the accumulations of interest, bring up the total in hand to over £71,000 ($355,000), *i. e.*, £46,100 ($230,500) has been invested in the purchase of £40,500 ($202,500) of the company's ordinary stock and £25,600 ($128,000) is on deposit with the company at 4 per cent interest.

The number of profit-sharing stockholders is above 2,500, and the market value of the £40,500 ($202,500) of the stock held by them is over £59,000 ($295,000); consequently, with the money on deposit, they are the owners of £85,000 ($425,000), and before the present year is out there is little doubt the figure will be £100,000 ($500,000). This sum of money would certainly not have been in its present hands but for the profit-sharing scheme of 1889. It is safe to say that a large portion of it has been created by the better relations the system has produced between employers and employed; it may, therefore, be considered a financial success, at any rate, so far as the employed are concerned. During the whole period, there has not been a single difficulty or any disagreement with the workmen. The work has been done better and in a more cheerful spirit, and it can safely be said that the company is better off financially for the £82,000 ($410,000) paid.

Some explanation is necessary in regard to "an increase of dividend being permitted when the price of gas is reduced, while a diminution follows any increase in the price of gas." The sliding scale as applied to gas companies in Great Britain is a system whereby the dividends to the shareholders vary inversely with the price of gas—the lower the price the higher the dividend that the law permits on the ordinary shares or stock of the companies, and, on the other hand, it of course follows that an increase in the price of gas entails a reduction of dividend.

This apparent paradox naturally gives rise to the question, How can profit be increased by reducing the price of the article sold? To answer this question fully, it is necessary to refer to the English statutes. Under the gas works clauses act of 1847, the dividends of English gas companies were limited to 10 per cent, but at that time, competition was general and few or none of the companies were paying the maximum dividend. Some years later, competition was found to be to the advantage neither of the companies nor of the consumers, and it was gradually abandoned and a regulated monopoly took its place.

The acts of Parliament provided that when any gas company made profits in excess of the maximum dividends, the price should be reduced; but the system was not effective. The companies were allowed to charge a price high enough under all circumstances to secure their full dividends; consequently, there was no inducement to sell gas at a low price, but rather the other way. Their dividends being secured, it was to the interest of the shareholders to put as much capital into the business as possible, thus greatly tending to overcapitalization. In 1872–73, there was what was known as "the coal famine," and the gas companies raised their prices. The public authorities and the consumers complained, and public inquiries were instituted. At this time (1874), the sliding scale above referred to was suggested. It was adopted by Parliament in 1875, and has since come into general use. The principle is as follows: A certain standard price is fixed for the gas, and for every penny per 1,000 cubic feet at which gas is sold below such standard or initial price, the company is allowed to pay one-fourth per cent extra dividend above the old maximum of 10 per cent, while, on the other hand, a one-fourth per cent reduction of dividend accompanies an increase of a penny in the price of gas.

The standard, or initial, price is fixed at the figure at which it is considered the company can earn the standard dividend. The system has been in operation twenty-one years, and there is not a case in which the price of gas has not been reduced—in some cases very materially—and the dividends have been increased 2, 3, and even 4 per cent. How is it done? Simply by making it to the interest of the companies to reduce the price. This they have done by improved machinery and improved methods of working, by economy both in working and in the raising and expenditure of capital, and by the increase of business.

The regular wages are not reduced or influenced in any way by the profit-sharing bonus, which is an addition in the form of a percentage on the annual amount of the salary or wages of the employees, calculated for each man separately. The percentage is pro rata. For example, if the bonus is at the rate of 7½ per cent on salaries and wages, an officer receiving £500 ($2,433) a year will get £37 10s. ($182.50); another with £300 ($1,460), £22 10s. ($109.45); a skilled workman at £2 ($9.73) a week, or, say, £104 ($506.16) a year, £7 17s. 6d. ($38.33). All grades and classes, therefore, have an equal proportionate interest in promoting the welfare of the company, and in every case one-half only of the annual bonus is withdrawable, the other half being invested in the company's ordinary stock, which pays to the investor about 4 per cent on his investment.

The original arrangement, as set forth above, was that for every penny at which gas is sold below 2s. 8d. (64.66 cents) per 1,000 feet there should be a bonus on salaries and wages of 1 per cent. The company now offer to increase the bonus to 1½ per cent (until it reaches 9 per cent, when the further increase is to be at the old rate of 1 per cent) for each penny reduction, to any man who is willing to have one-half of his bonus on the new scale, directly it is declared, invested for him in the names of three trustees of the company's ordinary stock (which pays from 4 to 5 per cent interest), until the amount credited to any profit sharer is sufficient to give him a stock certificate in his own name. The remaining half of the bonus on the new scale is to be withdrawable at a week's notice, or it may be left in the company's hands to accumulate at 4 per cent interest as heretofore, or it may be invested in stock with the trustees.

If the price of gas is at or above 2s. 8d. per 1,000 feet, no bonus.

Bonus, old scale (the whole being withdrawable).—If it is 2s. 7d., 1 per cent; if it is 2s. 6d., 2 per cent; if it is 2s. 5d., 3 per cent; if it is 2s. 4d., 4 per cent; if it is 2s. 3d., 5 per cent; if it is 2s. 2d., 6 per cent; if it is 2s. 1d., 7 per cent; if it is 2s., 8 per cent.

Bonus, new scale (half to be invested in the company's stock).—If it is 2s. 7d., 1½ per cent; if it is 2s. 6d., 3 per cent; if it is 2s. 5d., 4½ per cent; if it is 2s. 4d., 6 per cent; if it is 2s. 3d., 7½ per cent; if it is 2s. 2d., 9 per cent; if it is 2s. 1d., 10 per cent; if it is 2s., 11 per cent, etc.

Inclosed will be found a copy of the rules framed by the South Metropolitan Gas Company, and also the contract form used in carrying out the profit-sharing system which has been introduced as a means of settling the long-pending dispute between capital and labor.

C. W. CHANCELLOR,
Consul.

HAVRE, *January 21, 1897.*

RULES.

(1) Those employees (and those only) who engage and work under written agreements shall be entitled to the bonus.

The directors reserve the right to refuse permission to sign an agreement to any man who takes no interest in the welfare of the company, or who is wasteful of the company's property, or careless or negligent in the performance of his duty.

(2) The bonus shall be calculated on the ordinary salary of the officers and on the daily wages earned by the workmen in the course of the year, which for this purpose shall end on the 30th of June in each year, no account being taken of overtime, and those workmen who may be on piecework shall have their bonus calculated on the amount they would have earned at their ordinary rate of wages in the regular working hours.

(3) No deduction will be made on account of absence caused by sickness, unless the total amount of such absence exceeds two calendar months in the year.

(4) The bonus shall not be earned until the 30th of June in each year or until the agreements for the short terms expire, and no employee or his representatives shall be entitled to any part of the bonus until June 30 or such term as may be set forth in the agreements for short periods, except in case of death or leaving the service of the company.

(5) On the declaration of the bonus on the 30th of June in each year, or, in the case of the winter men, on the completion of the term specified in their agreements, the whole of the bonus shall become the absolute property of the employee whether on the old scale at the rate of 1 per cent per penny reduction in the price of gas, payable all in cash, or on the new scale at the rate of 1½ per cent, of which half must be separately entered in his pass book and invested in the company's ordinary stock on his behalf in the names of three trustees, and only the other half, which

shall be entered on another page in the pass book, with which each profit sharer shall be provided, shall be payable in cash, as is the case with the bonus on the old scale, and may be withdrawn in whole or in part or any accumulations thereof, including interest, at any time upon giving not less than seven days' notice on a form provided for the purpose. If not withdrawn, this portion of the bonus will remain in the company's hands to accumulate at 4 per cent interest. Under no circumstances whatever, except fraud, shall the bonus or any part or any accumulations thereof, whether in the hands of the trustees or in the name of the employee, be forfeited. Only those winter men who arrange to return the following winter can have the bonus on the new scale, and any such man not returning the following winter can, on application to the trustees, obtain whatever sum he may have left in their hands, which will be payable on or after the 31st of December.

(6) The committee shall appoint three trustees, one director, one officer, and one profit-sharing workman, in whose names the half bonus shall be invested annually, and the dividends as they accrue, in the company's ordinary stock. A separate account of the principal and of the interest (which will be at the rate of about 5 per cent), made up once every year, shall be kept for each man, and when the amount standing in any man's name shall be sufficient, either alone, or with additions made by himself, to purchase at the market price £5 ($24.33) or more of stock, the trustees shall, unless requested to the contrary, transfer such amount to him, he paying only the cost of the Government stamp. In the event of leaving the service of the company, or winter men not returning the following year, or on the death of any depositor, the trustees shall pay to him or to his representative, in accordance with rules 5 and 10, whatever money may be standing in his name in their hands, but under no other circumstances shall any money be withdrawn from the trustees.

(7) Interest at the rate of 4 per cent per annum shall be allowed on all withdrawable amounts, excluding fractions of a pound, left with the company. The said interest shall be calculated up to June 30 in each year, and no interest shall be allowed for any time less than three months, should the money be withdrawn at any intermediate period.

(8) The company will, in addition to the bonus that may be deposited in their hands by any workman, receive and add to his account such amounts as the workman may be able to pay to the company from his savings, and on all such sums so received the company will pay interest thereon at the rate of 4 per cent per annum, as per rule 7.

(9) The company will, on the application of any of their employees, make arrangements for the transfer and investment of the money deposited by them, or any other money they may desire to invest, into the stock or shares of the company, which will pay to the investors about 5 per cent interest. Any employee, being a shareholder, can at any time sell his stock at the market price, on application to the secretary of the profit-sharing committee.

(10) Any workman may at any time nominate, in writing, any person as his representative in the event of his death, and, on the receipt of the nomination by the secretary, such person will thereafter be treated as the legal representative of the said workman, and on the production of the registrar's certificate of death, he may withdraw the whole of the money standing to the credit of the deceased workman; but if no nomination has been made or no provision for legal representation otherwise taken, the money will, on the production of the certificate aforesaid, be paid to the next of kin of the deceased workman. Whenever, under this rule, on the decease of an employee, the company has paid to the person so nominated the amount standing to such deceased employee's credit, such payment shall be valid and effectual against any demand made upon or against the company by any person whatsoever.

(11) A committee of management shall be elected, to consist of the chairman of the board of directors, seventeen members elected by the board, and eighteen members elected by the profit sharers, in proportion to the numbers at each station, who shall be elected by ballot, one-third of the members of the committee to retire by rotation every year, but to be eligible for reelection. Seventeen members shall constitute a quorum, of which not less than eight shall be workmen, and every resolution to be binding at such meeting shall have for its support a majority of the members of the committee present and voting upon the resolution.

(12) The committee shall appoint a secretary, who shall have no power of voting.

(13) In the event of any difference arising as to the construction of these rules, it shall be referred to the committee, whose decision shall be final and conclusive.

(14) There shall be two auditors, one to be elected by the workmen, the other to be appointed by the company, whose duty will be to compare and initial the workman's pass book with the general account, and for that purpose all pass books must be handed in or sent to the head office in the month of June in each year. When sending the pass book to the secretary, each profit sharer is to say, on a form to be provided for the purpose, whether his bonus is to be on the old scale or the new. Such winter men only as arrange to come back the following winter can have their bonus on the new scale. Any workman can also say whether he wishes any other part of his bonus or savings invested by the trustees.

(15) The committee shall meet for the transaction of business when summoned by the secretary, but not less than twice in each year and on a requisition of twenty employees or three of their own number at any time.

(16) The secretary shall receive all notices, summon all meetings of the committee, and obey the orders of committee in all other matters and things whatsoever.

(17) No alteration shall be made in these rules whatever, except by the sanction of the committee and subject to notice of at least one calendar month, which notice shall state the nature of the alterations and be posted in conspicuous places at the various stations; but nothing in these rules contained, or which may be contained in any rules hereafter agreed upon, shall give to any employee, whether officer or workman, any right to interfere in the management or control of the company's works or in the working and carrying on of the company's business.

(18) The company shall provide all the books and other incidentals, and keep the accounts, together with a record of all the transactions, at the company's sole cost and charges.

Wages No. ——. Profit-sharing No. ——.

GENERAL AGREEMENT.

Memorandum of an agreement made the —— day of ———, 189 , between ———, for and on behalf of the South Metropolitan Gas Company, of No. 709A, Old Kent Road, in the county of Surrey, of the one part, and ——— of the other part.

(1) The said ———, for South Metropolitan Gas Company, agrees to employ the said ——— for a period of —— months from the day of the date hereof at one or other of the stations of the said company, if he shall remain sober, honest, industrious, and performs the work allotted to him.

(2) The said ——— agrees to serve the said company for the said period of —— months in whatever capacity he may from time to time be employed by the said company at the current rate of wages applying to such capacity.

(3) The said ——— agrees to obey the orders of the foreman in charge.

(4) * * *

(5) The company undertakes that during the continuance of this agreement the different rates of wages in force at the date hereof, and which, under clause 2, may become payable to the said ———, shall not be reduced.

(6) The said ——— to be entitled to the benefit and be bound by the conditions of the profit-sharing rules so long as he shall continue in the service of the company under agreement.

As witness the hands of the parties, ——— ———.

——— ———.

No obstacle will be thrown in the way of any man engaged under the above contract who may wish to leave the company's employment before the expiration of the period of service therein agreed for, provided he shall notify such wish to the engineer of the station at which he may, for the time being, be employed, and on receipt of such notice the engineer shall, in his discretion, consider whether the services of such man can be dispensed with without detriment to the company, and, if so, permission will be given at the expiration of the usual week's notice.

FRENCH MINING STATISTICS.

Some interesting statistics on the mining industries of France are furnished by a recent report to the Minister of Public Works. The report is submitted by a commission appointed to investigate the subject, and covers the year 1895.

COAL.

It appears that the extraction of coal of all kinds during that year amounted, in round numbers, to 28,020,000 tons, showing an increase over the preceding year of 603,000 tons.

The exportation from France for the same period, including both the coal as extracted and coke (combustibles, crus ou carbonisés), amounted to 943,000 tons, representing 963,000 tons of coal (houille).

The importation of English, Belgian, and German coal, including, as before, the crude and carbonized, consisted of 10,804,000 tons, representing 11,510,000 tons of coal as extracted. The considerable reduction in freightage enabled England to increase her exportation to France and to compete advantageously with Belgium.

During 1895, the consumption of coal and coke in France was 38,640,000 tons.

Of the total amount produced, the coal basin of the department of Pas-de-Calais furnished 11,110,000 tons; that of the department of the Nord, 5,010,000 tons; and that of the Loire (one of the departments included in this consular district), 3,484,000 tons. The balance (8,416,000 tons) was divided among fifteen other departments.

IRON.

For the same year, the production of iron ore was 3,680,000 tons, showing a decrease from that of the previous year of 92,000 tons.

The annual importation of iron ore is about 1,600,000 tons, largely from Luxemburg.

OTHER MINING OPERATIONS.

Lead, silver, zinc, manganese, and antimony together formed a total of 131,000 tons, while iron pyrites amounted to 253,000 tons. The extraction of rock salt was 515,000 tons. Two hundred and sixty-seven thousand tons of bituminous substances will very nearly complete the enumeration of mine production during the year stated.

EMPLOYMENT.

The French mines give employment to 148,600 laborers. Of this number, 5,200 are women employed at the surface, about 8,300 minors from 16 to 18 years of age, and 9,000 under the age of 16. More than 137,000 of the above total are employed in coal mining.

CHARLES W. WHILEY, Jr.,
Consul.

ST. ETIENNE, *February 18, 1897.*

STRAW PLAITING IN GERMANY.

HISTORY.

Straw plaiting was first introduced into Saxony from Austria, or, rather, from the then Italian provinces of the Austrian Empire. First settling in the northern parts of Bohemia, this industry gradually made its way into Saxony. Here, in the vicinity of Altenberg and Geysing, it developed into such importance that its products are to-day equal in quality to those of Switzerland and Italy.

The Saxon straw-plaiting industry affords an illustration of the importance of trade schools and their influence on the industries. In introducing in the forties this industry into northern Bohemia, one of the first acts of the committee for the advancement of the home industries among the inhabitants of the ore mountains was to establish straw-plaiting schools at Hochstadt and Zinnwald. The influence of these schools was soon felt in that whole section. People began to cultivate properly the wheat and rye necessary for the straw, and to give the latter a rational treatment; they learned to classify the different grades of straw, to plait, and everything else pertaining to their new trade. The production of first-class plaits increased rapidly. In short, this industry established itself firmly at these places during a number of years; but for some reason, the people failed to foster their schools, the latter went out of existence after some ten years, and after another decennium, little was left of the once flourishing industry.

During its best period, this industry had spread across the border into Saxony. When it began to decline, the authorities of the Saxon towns of Altenberg, Geysing, and Dippoldiswalde, recognizing the cause, took up what their neighbors had neglected. Each established a school for straw plaiting, equal to those which had formerly existed in Hochstadt and Zinnwald, on the Bohemian side. The effect was surprising. The schools worked like a leaven, turning out year after year new recruits, who were familiar with the art of plaiting and the materials employed. Their influence was not only felt on the Saxon side, but, owing to the energetic support of the bodies interested, soon began to exercise a reviving influence on the dying industry in Bohemia. But the latter has never again attained that prosperity which it enjoyed when it had the stimulative schools at Hochstadt and Zinnwald. To-day, the center of the industry is on the Saxon side.

MATERIAL.

The material used for plaiting is chiefly straw and bast. The raw material for straw plaiting proper is ordinary wheat straw. However easily procurable this may be, the question of material is not to be lightly dismissed, when we have to consider that the manufactured product is to compete in the open market. The straw destined for use in this industry must be of sufficient length, it must be firm, tough, and flexible—qualities not found in all straw. The celebrated straw goods of Florence and the greatly developed Swiss straw industry owe their success chiefly to the excellent raw material, the fitness of it for plaiting purposes always being kept in view by the grain growers. So in Saxony, as well as in Bohemia, great weight is laid by those interested in the business on the production of suitable straw.

The straw reaches the plaiter's hands in an almost natural state. The preliminary process it undergoes before becoming a plaited band or piece of openwork is a very simple one. A straw or section of straw is drawn between a piece of leather about the size of a boot heel and a curved knife, so that it is flattened and straightened at the same time. It is then split into several strips by being passed once more between the above-mentioned piece of leather and a small steel plate with several teeth. The straw is used either in its natural color or bleached in sulphur fumes by the workmen, according to the nature of the work in hand. Dyed straw is also made use of, but this is furnished by the dealers, as the average workman is unfamiliar with the dyeing process. Special treatment with chlorides, etc., such as the straw undergoes in other centers of the straw-plaiting industry, is here unknown. The finishing process, such as washing and polishing the plaits, removing defects, etc., is carried out by the manufacturers of straw hats and similar goods.

The second material used for plaiting in the Erzgebirge is bast, or, more properly speaking, chips or wood shavings. These are extremely thin strips, from one-eighth to one-quarter of an inch wide, chiefly prepared from aspen wood, which is imported from Russia. This bast is used for the manufacture of so-called sparterie goods. It requires no further preparation before being used for plaiting.

PLAITING PROCESS.

The plaiting itself is a very simple process, depending practically on the deftness of the hand, which is the only tool, so to speak, called into use. Almost the only kind of plaits here produced are those used in the manufacture of hats—that is to say, strips or braids, which are, as fashion demands, narrow or broad, thin or thick, with both edges smooth, or with a kind of lace or openwork along one side. But whether straw or bast be employed in the production of these braids, the manipulation is almost the same.

At present, bast is the principal material used in the production of so-called fancy goods. Straw, either in its natural state or dyed, is only used to ornament the bast-work body of the article with a kind of lace-like edging, for which purpose threads of silk, cotton, or horsehair are also used.

With the simple preparation of the straw already alluded to and the actual plaiting of the straw or the bast, the share taken by the workmen of the Erzgebirge in this industry ends. The further transformation of the plaits into articles of trade, such as sewing them together to make hats, etc., does not take place here.

ORGANIZATION OF THE INDUSTRY.

The straw plaiters proper—the inhabitants of the cottages in the Erzgebirge—have no general knowledge of the trade by which they live. They hardly know whence the material comes; they do not know what becomes of the finished product. They are simply cottage workers, and the management of the whole industry lies in the hands of the dealers, who, in their turn, perform their share of the business in an exceedingly primitive way.

There are two kinds of dealers, as is the case in most of the home industries. On the one hand, we have the small middlemen or factors, who come into direct connection with the workers, and, on the other, the dealers or wholesalers, who buy the plaits collected by the middlemen and sell in large quantities to manufacturers abroad. No distinct line can, however, be drawn between the two classes, and it can hardly be said that either of them occupies an important place in the commercial world.

As to the middlemen, who live in the scattered villages, there is again a great difference in their commercial standing. In some villages, it is the inn or shop keeper who acts as middleman. In other places, this rôle is played by itinerant buyers of restricted means, who often start with a capital of not more than $5 or $6. They wander from house to house, buying the goods in small quantities and then disposing of their acquired stock to larger dealers. The small middlemen not only buy the result of the cottage-workman's labor, but supply him also with the raw material, of which they keep a small stock on hand, as well as with the new patterns which fashion demands and according to which the goods are to be made.

The other class of dealers is formed by the export merchants, residing chiefly in Geysing and Altenberg. At the beginning of a season, they go into the Saxon and Bohemian villages, taking with them the patterns procured in Dresden or Paris, and leave their orders with the middlemen or factors.

CONDITION OF THE WORK PEOPLE.

The situation of this community is somewhat precarious, entirely dependent as it is on the middlemen for its supply of raw material and patterns, as well as for the disposal of its products. The people are excluded from all knowledge of matters affecting the market for their goods, and are to be regarded in every sense of the word as cottage workers.

The number of persons engaged in this industry on the Saxon and Bohemian sides may be safely estimated at 20,000 to 30,000, of which the females furnish the largest contingent. These are engaged in the work, almost without exception, from childhood to old age. The men are partly occupied in ore mining, but generally take up plaiting during the busy season, and at times when there is no work in the mines. The necessary skill they all possess, and their earnings during the season are not less than the wages paid in the mines, namely, 25 to 35 cents a day.

As has already been indicated, plaiting is season work. The chief season lies between the second half of October and Christmas, which corresponds with the conditions of the trade in plaited goods, as the orders for America have to be ready for delivery by Christmas. Then the workers come together in groups, to economize on fuel, sometimes in one, sometimes in another, dwelling, meeting in the so-called "Rockenstube" (spinning room), and there they plait industriously with a sort of patriarchal geniality from early dawn until late at night, often, indeed, until midnight or even till 2 a. m.; also, after Christmas, so long as the rough and long winter lasts, even until April, the plaiting work goes on. In fact, plaiting is never entirely suspended, for even in the summer months, a plaiter makes up daily, at least, a "piece," in order to provide for pressing needs. The rest of the summer the people spend in the forests of the large landowners gathering their winter fuel.

The earnings from straw plaiting vary much according to the season. They are highest in the winter months, notably in November and December, and lowest during the summer months. Moreover, variations in the pay are perceptible in different villages and even in the same village for the same class of plaiting. As a rule, the larger dealers content themselves with a small profit of 2 pfennigs (about half a cent) per piece, whereas the middlemen try to clear a larger proportion in return for their intervention, up to 4 and 6 kreutzers (1½ to 2½ cents) per piece. Plaiting is paid for according to the piece. The so-called "mandel," or shock, serves as a unit. This is, for straw plaiting, a strip of 12 meters, and for chip plaiting, a band or border of 24 meters, which is wrapped up in half-meter lengths. The prices per shock also vary according to the nature of the plaiting. The samples serve as gauges, *i. e.*, the so-called "twists" or "snaps" which form the side edges are taken into account, as are, likewise, the number of straws used (seven or eleven), and the use of single or double straw. For an article for which there is at present a fairly good demand, say an article such as is produced in Zinnwald, a four-snap fancy work (chip plaitings), the workwoman receives 30 to 35 kreutzers (12 to 14 cents) per shock in the principal season, but, inasmuch as she must use about 5 kreutzers' (2 cents) worth of bast for such plait, which costs about 24 kreutzers per pound, she only nets from 25 to 30 kreutzers (10 to 12 cents) for her labor. The price for the same goods sinks rapidly after Christmas and, about April, the same article will bring her in 25 kreutzers at the most.

The time required by a skillful woman to make such a shock is from three to three and a half hours; one less skillful, or a child, requires much more time. Two-snap chip work, which is somewhat simpler and more quickly made and for which about 4 kreutzers of bast and two and a half to three hours are needed, brings from 22 to 27 kreutzers (8 to 9 cents) about Christmas time. The price sinks in spring to 18, in summer to 15 and even to 12 kreutzers. The daily earnings, at nine hours' work, are, therefore, between 69 and 24 kreutzers (28 and 9 cents).

The prices for straw plaits are similar to those for chip plaits, but with the difference that here the shocks are only 12 meters long. This is, however, equalized by the circumstance that the straw plaiter has to perform a preparatory labor which is not needed in bast plaiting, as well as that straw work requires greater care and more time, the strips for straw plaiting being much shorter than those for chip plaiting. However, the earnings from straw plaiting seem to be somewhat better than those gained by chip work.

The conditions of life of the plaiting population correspond to those of their avocation. The principal articles of food are produced on their small strips of ground, and these consist of potatoes and goat's milk. In addition to these, coffee and some small edibles are bought of the local storekeeper. Coffee, with goat's milk and bread, form the morning and evening meals; coffee, with goat's milk, bread, and potatoes, perhaps with the addition of some indefinable fat which is honored with the name of butter, constitute the midday meal. A little meat on Sundays and festivals may possibly be added. The forests furnish the fuel; light, clothing, and other necessaries are supplied by the storekeeper, who is often at the same time the work giver and credit giver. Whatever mental nourishment is longed for is taken from the book-hawker novels.

In spite of these conditions, the population is not altogether in a hopeless state. Plaiting is by no means an occupation detrimental to health. There is no generation of dust, no strength-taxing labor, no difficult tool to handle; the work permits of sitting upright and the eyes are very little taxed. Moreover, the high air of the ore mountains doubtless exercises a beneficial influence. Ailments of the respiratory organs, and especially of the lungs, are of rare occurrence, according to Dr. Max von Tayenthal, who has given this whole subject much thought and study and to whom I am greatly indebted for the data contained herein. The nature of their dwellings is favorable in so far that most of the work people have their own cottage, modest though it may be, which affords the five or six members of the family sufficient accommodation for work, dwelling, and sleeping in the two to three rooms on the ground floor and in the garret.

The population is fairly intelligent, but has an aversion to innovations. It is said that a shrinkage of the earnings derived from plaiting would, in effect, condemn some communities to death by starvation.

The influx of strangers during the summer months has scarcely been turned by the inhabitants to advantage. The benefits derived from such influx are only enjoyed by hotel keepers and other food purveyors. Nobody seems to have thought of producing plaited goods for sale among the tourists.

Attempts have been made at different times to introduce the glass-painting and wood-carving industries, but without results. Plaiting is the sole and undisputed industry of the district.

MARKETS.

In Austria, very little of the plaiting is used. The goods are of such excellent quality that they are unable to compete there with the cheap Italian, Swiss, Chinese, and Japanese articles. Only a few Vienna and Prague factories work up these braids. Most of them are bought by the dealers on the Saxon side and find their way partly into those factories in and near Dresden which make better goods; the bulk, however, goes to England and the United States.

As has already been stated, the whole of the plaiting industry is, to a certain extent, dependent on fashion, which has of late, more or less, turned away from straw to chip plaits, so that the latter are just now the chief article made by the ore mountain plaiters.

The value of the plaits produced in the ore mountains may be roughly estimated at $500,000, and even this high figure may be regarded under rather than over the mark.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *December 23, 1896.*

SEWING NEEDLES IN GERMANY.

The sewing needle, though small, forms a very important article of commerce in Germany. While formerly England supplied this market with needles, this industry has, during the past few years, developed to such an extent that the Germans are able to meet their English competitors not only on the markets of the world and the British colonies, but in England as well. The principal seats of this industry are Aix la Chapelle, Burtscheid, Iserlohn, Altena, Nuremberg, and Schwalbach. The factories of Aix la Chapelle alone produce weekly 50,000,000 needles.

The following statistics will show to what extent the export from Germany of these needles has developed. During the eight years from 1880 to 1887, the German export of needles of all kinds (embroidery, knitting, darning, sewing, and sewing machine) amounted to 5,185,300 kilograms (11,615,000 pounds), to the value of 50,000,000 marks ($12,000,000). The following eight years (from 1888 to 1895) make a still better showing. During this period, the quantity exported was 6,886,200 kilograms (15,425,000 pounds), valued at 61,000,000 marks ($15,200,000). That the export figures are still on the increase may be seen from the fact that during the first ten months of the present year not less than 1,079,100 kilograms (2,417,000 pounds) were exported, as against 640,300 kilograms (1,434,000 pounds) during the same period in 1895.

The enormous growth in the production of this article is principally due to the lively export trade to China, where Germany seems to entirely control the market. Of the entire export of needles during the first ten months of the current year, which, as stated above, amounted to 1,079,100 kilograms (2,417,000 pounds), more than 60 per cent, namely, 712,700 kilograms (1,596,000 pounds), valued at nearly 6,500,000 marks ($1,600,000), went to China; that is to say, the export thither more than trebled within one year, for the export to China during the first ten months in 1895 amounted to only 283,900 kilograms (635,000 pounds). In fact, China is by far the most profitable market for needles of German manufacture. In the course of six years, from 1890 to 1895, 2,809,200 kilograms (6,292,000 pounds), valued at 24,500,000 marks ($6,100,000) were exported to China; that is, more than half of the entire German needle export. Other countries importing German sewing needles are: British East Indies, which bought 68,500 kilograms (153,000 pounds) during the year 1895; France, 55,500 kilograms (124,000 pounds); the United States, 38,800 kilograms (86,000 pounds); Austria-Hungary, 49,300 kilograms (101,392 pounds); Italy, 26,100 kilograms (58,464 pounds); Turkey, 21,500 kilograms (48,160 pounds).

The exports of this article to Central and South America during the year 1895 amounted to 43,000 kilograms (96,300 pounds), valued at about $100,000.

Here is a branch of manufacture which has hitherto been almost entirely neglected in the United States. Perhaps the article appears to be too insignificant, but the Germans have succeeded in obtaining important results from small causes. Under the protection of their Government, they have built up a needle industry which commands the respect of the world. At first, they imitated the English methods of manufacture; but their superior technical training soon enabled them to discover the defects of the English machinery, and they adopted new and improved devices and followed their own course of manufacture. The infant industry of a few years ago has become one of national importance; the manufacturers go into the markets of the world, preferably into new countries, and compete successfully everywhere. It is only a question of a few years until German sewing thread will replace in China that of Coates, Clarke, and Brooke.*

THEODORE M. STEPHAN,
ANNABERG, *December 21, 1896.* *Consul.*

---

*See report on that subject in CONSULAR REPORTS No. 184 (January, 1896), p. 85.

GERMANY'S PLACE AMONG INDUSTRIAL NATIONS.

The form of the German Empire's coast, its length, its fine harbors at the mouths of navigable rivers, its splendidly developed canals and interior harbors, its recent enormous industrial development, due partly to its well-equipped transportation system and its almost perfect network of railroads, reaching the remotest part of the Empire, carrying freight at cheap rates to the sea, have helped Germany to reach the second place among industrial states. Official figures put Germany's exports and imports for 1895 at 8,095,500,000 marks ($1,926,729,000). England's was 13,133,700,000 marks ($3,125,820,600); the United States, 6,406,600,000 marks ($1,524,770,000); France's, 5,740,200,000 ($1,366,167,600). Her merchant marine in 1895 numbered 3,665 seagoing ships, with 1,550,000 registered tons burden; besides these, 21,318 sailing vessels and 1,530 steamships for coast and river traffic. Great Britain, in 1894 (the figures for 1895 I was not able to find), had 21,206 ships, registering 8,950,000 tons; France, in 1895, had 15,528 ships, with 890,539 tons. Thus Germany, in tons, has gone ahead of France. Hamburg, Germany's greatest seaport, is surpassed only by London. There are Hanseatic ship companies that equal any in England, both in number of ships and tonnage. My impression is that the North German Lloyd is the largest single company in the world. This extraordinary showing of ships and tonnage is the work of little more than twenty years. The increase began after 1871. It grew out of almost nothing. Although the Empire had held, by means of its Hanse towns, a good place among mercantile nations, the days when the Fuggers and Welsers had ships in every part of the world, when the Hanse flag held sway in the North Sea, had passed. The dismembered Empire found competition with its great rivals difficult; enterprise was dormant. The reunion of the different states into the North German Confederation revived the spirit, not only of the northern, or Hanse, towns, but of Bavaria, Baden, Würtemberg, Saxony, and Thuringia, duchies and kingdoms far from the sea. The foreign commerce of a nation reflects, as a rule, a nation's power and importance. The remote and often uncultured purchasers are impressed with a nation's greatness according to the size and character of its navy. "A fleet of war ships," says a German writer, "is the very best commercial advertiser in the world." "What, however," continues the same writer, "will become of our commerce if we have no fleet sufficient to protect it? It will fall a prey to any foreign foe when carried in our own ships. This happened to Spain in the Seven Years' war and to

Holland in the sea fights from 1778 to 1783. If compelled to freight foreign ships, what is to hinder our ports from being blockaded? Either horn of the dilemma is dangerous." Thus, the fleet advertises a nation in time of peace and defends its commerce in time of war. Captain Mahan's teachings are bearing fruit. Germany wants her navy to correspond with her merchant marine, considering this the only safe way to secure her maritime interests. Germany can not do this for a long time. She ranks second as a mercantile nation, but seventh as a sea power. Even Spain, Holland, and Italy precede her. There is need for energetic action. On all sides, even far inland, efforts are being made to awaken the Empire to existing evils in respect to its naval strength. The Dutch Republic let its naval power pass away; with it, went commerce, and shortly afterwards, various industries. No nation can neglect its foreign commerce and expect to keep up its agriculture and manufactures.

J. C. MONAGHAN,
CHEMNITZ, *December 10, 1896.* *Consul.*

INDUSTRIAL EDUCATION IN GERMANY.

Prussia, like Saxony, has reason to be proud of her progress in industrial education. The budget for 1897–98 contains a liberal allowance for this branch. A large part is to be expended in the building of trade schools. The unprecedented activity in building trades all over the Empire makes more and more evident the advantages, as well as need, of such schools. The existing schools are not as thorough as the masters in trades and friends of industrial education desire. Old schools are to be improved and new ones are to be built. The marine school at Flensburg for steamship machinists, etc., is to be put under imperial control as well as patronage; the corps of teachers of the machine-building school at Dortmund is to be enlarged; the school at Hoehr for ceramics is to be assisted with money and aided by the addition of models, teachers, etc.; the dyeing and finishing departments of the Aix la Chapelle and Cottbus weaving schools are to be enlarged; the weaving school at Crefeld is to open a course in knitting; the Forst weaving school is to open a course for master dyers; Ronsdorf is to have a weaving school, and Breslau district is to have another, making four in this busy hive of human industry. The excellent results attending the work of teachers who have gone from house to house among the Silesian weavers have induced the Government to give this system a trial in other parts of the Empire, especially in districts where the hand loom is used. Hanover is to have several, for hand weaving is common among the farming population there. England's activity along lines of industrial education is inducing this people to make greater efforts.

Germany's superiority over England in technical education is obvious. Industrial, industrial-art, and technical schools, more than anything else, have made Germany what she is. No one who has given attention to her industrial development can have failed to find her schools at all times aiding manufacture and commerce. It is to this technical training, to this endeavor to obtain exact knowledge of forces, factors, commodities, sources of supply, and markets, with their various demands, etc., that the country owes her remarkable success. She is poor in climate and in natural resources, poor in everything except the thrift, intelligence, and tireless zeal and industry of her people. With such schools added to our resources, our country would soon surpass Germany.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *January 14, 1897.*

GERMAN VERSUS FINNISH BUTTER.

Germany is doing all she can to recompense farmers for the losses of the last ten or fifteen years. Legislative aid is given to agriculturists when possible. The tariff on corn, the exclusion of meat, the demanding of certificates of origin for foreign products, quarantines, inspections, etc., have been tried; also, the ratings bill, the bill to advance money to erect farm buildings, and the light railroad bill. But the condition of the farmer in 1896–97 is worse than ever. Bohemia and Bulgaria, Austria, Argentina, the United States, and all South America are pressing him closer to the wall. Just now it is Finland. Formerly, Germany's agricultural products were welcome everywhere. To-day, other countries equal her. Even her beer is beaten by American beer. Finland is surpassing in butter. This little land, in 1865, had 670,000 cows; in 1893, 949,000. Experiments were made with strange breeds; the results were in favor of the home cow. It is homely, but good and better suited to Finland's soil and climate. It gives plenty of good milk. It is a light red and weighs 600 pounds. Its food is grass in summer and hay, with a little oats and wheat bran mixed in water, in winter. In 1894, Finland imported 14,000,000 kilograms (30,000,000 pounds) of bran. Finland is famous for its butter; for years, it has supplied St. Petersburg. For a long time, the milk was churned in the old-fashioned way; improved methods are now used. Since 1880, with the introduction of the certrifugal churning system, the Finns are supplying the outside world with a butter like that of Denmark (Pasteur non-germ system).

The following table of exports tells its own tale of Finland's growth in this industry:

Year.	To Russia.	To other countries.	Total.
	*Kilograms.**	*Kilograms.**	*Kilograms.**
1880	2,742,054	3,802,267	6,544,321
1881	2,674,520	2,268,125	4,942,645
1882	2,424,350	2,533,069	4,957,419
1883	2,449,927	2,602,054	5,051,981
1884	2,254,160	2,250,087	4,504,247
1885	2,477,404	2,654,726	5,132,130
1886	2,594,133	2,902,083	5,496,216
1887	2,402,619	4,386,143	6,788,762
1888	3,226,005	4,385,164	7,611,169
1889	3,513,612	4,703,398	8,217,010
1890	2,388,274	5,627,958	8,016,232
1891	1,594,382	6,369,179	7,963,561
1892	990,650	7,102,287	8,092,937
1893	1,460,665	8,180,535	9,641,200
1894	1,331,095	12,003,974	13,335,069
1895	831,000	13,284,054	14,115,054

* 1 kilogram = 2.2046 pounds.

Oleomargarine, according to law, may not be made in, nor imported into, Finland. The Government has given aid by improving the harbor of Hangö, and recently by buying an ice breaker and using it to make a channel for the butter boats to Copenhagen or England. Formerly, in winter, Finland had to send its butter through Sweden, losing on duties demanded by the latter country. The ice breaker obviates this necessity. Efforts are being made to get a fine butter of uniform quality for the English cities. Besides the dairy institute at Mustiala, there are fourteen dairy schools with two courses and twelve with one. There are two State farms, four school dairy farms, and a large number of dairy-farm teachers. The State appropriates for exhibitions of dairy products. If Germany is to gain markets, or even hold her own, she must provide better goods than can be obtained elsewhere for the same price.

This report is due to an application made by a merchant in Chemnitz to put him in the way to import American butter. I believe, as does this butter merchant, that good American butter can be sold here at good prices. The market prices prevailing here are high.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *January 30, 1897.*
No. 200——7.

GERMAN TRADE IN THE ARGENTINE REPUBLIC.

England's consuls are confirming the reports of our consuls. They are telling their merchants and manufacturers that Germany is taking trade territory from them in all parts of the world. The most recent reports of this kind have come from the Argentine Republic. England is still first; but Germany is rapidly reducing the distance between them. In iron wires, bar and band iron, this Empire has not only gained the lead, but has forced England, in these lines, almost out of the Argentine markets. It is fast gaining on England in hardware, knives, scissors, locks, hasps, tools; this because its wares are more merchantable ("Preiswerthigkeit" is the word used). Business in agricultural machines in Argentina is at an ebb. Thrashing machines went down in sales from 1,200 in 1894 to 122 in 1895. The large quantities of goods in the storehouses were auctioned, which reduced prices. The English consul says there is no doubt that the German houses understand their business, and that they are gaining in Argentine markets every day. The reasons for this are to be found in the German's willingness to work for modest profits; in the thoroughness with which he studies other peoples' wants and wishes; in the care he takes to fill, in the best, quickest, and cheapest way, even very small orders; and, last, but not least, in the easy but long credits granted. These secure old and bring new customers. These things, though in no way new, are worth considering. These factors are making Germany a great industrial state. Nor can they be long neglected by any country that hopes to conduct profitable commerce in South America or in any foreign country.

J. C. MONAGHAN,
CHEMNITZ, *January 27, 1897.* *Consul.*

GERMANY'S TEXTILE INDUSTRIES IN 1896.

In general, Germany's textile industries did well during the year just closed. Still, the last quarter was by no means as good as the others. Hopes based upon election results in the United States have been realized only in a small degree. A movement to tax wool and other efforts on the part of the farming population, here as well as in the United States, have been watched with anxiety. Happily, except for the big strike at Cottbus, relations between employers and employed have been harmonious. The double-loom question, concerning which I have reported, was the only one weighty enough to breed more than a temporary discontent. The cotton spinning and weaving industries have been successful. Large dividends have been the rule rather than, as with us, the exception. New mills are being built and old ones enlarged all over the Empire. During December, reliable returns of a splendid cotton crop and a decreased desire to buy, due to a belief that prices must go down, threw doubt into the movements of many; but this all came too late to hinder the year's record from being good. The quantities of cotton yarn imported from England are steadily decreasing.

The woolen weavers and spinners have no reason to complain of the year just closed. Prices went up in raw wool, it is true; but so did the prices of woolen cloths, perhaps not in the same ratio, but still sufficient to satisfy manufacturers. Very few new woolen mills were built, but the old ones held their own, and in a year so universally bad as was 1896, that was a great deal. The worsted people wished to effect a union of manufacturing interests, but for some time nothing resulted. To-day, nearly two-thirds of the spindles are in a trust or union. The worsted people never knew a year as good as 1895. The year 1896 certainly will not equal, if it approaches it. The Pfaffendorf people paid 15 per cent and Stöhr & Co. 19 per cent dividends. What Aix la Chapelle and Leipsic lost in the United States they made up in other foreign markets. The linen and jute people made good profits. The jute spinners' trust or convention went to pieces as soon as other factories with 1,100 looms and 25,000 spindles were built. Since then, this once prosperous branch of German textiles has suffered. An agreement had been made by manufacturers to run only 80 per cent of the 72,000 jute spindles and 8,000 looms, in order to avoid overproduction and keep up prices.

The silk people suffered. This was due to small orders from the United States. In 1895, the United States bought large quantities at profitable prices. The tariff war between France and Switzerland injured Lyons and helped Germany. Raw materials were cheap, but buyers ordered only in small lots. The year 1895 was an exceptional one; the prices of raw materials were never so low and the demand for finished products never so great.

Every effort is being made to make the Empire independent of our markets. It is hoped that the exports to South America, Australia, the East, and, strange to say, to England, will increase. Everywhere, technical and industrial schools are being built together with the mills. The object is to make competition with England and all other nations possible, not here, for the home market Germany's manufacturers have already, but in the outside world.

The following shows the raw cotton consumed in the years named:

By—	1895-96.	1894-95.	1893-94.	1890-91.	1880-81.	1870-71.	1860-61.
	Bales.	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*	*Bales.*
Great Britain..	3,276,000	3,250,000	3,232,000	3,384,000	2,858,000	2,410,000	2,091,000
The Continent.	4,160,000	4,030,000	3,827,000	3,660,000	2,365,000	1,570,000	1,379,000
United States..	2,572,000	2,742,000	2,248,000	2,406,000	1,694,000	893,000	807,000
East Indies......	1,105,000	1,052,000	959,000	923,000	297,000	70,000	52,000
Total.....	11,113,000	11,075,000	10,266,000	10,343,000	7,214,000	4,943,000	4,329,000

Germany uses 1,200,000 bales; Saxony uses between 600,000 and 700,000 bales. Germany's demand went up from 300,000,000 pounds in 1880 to 656,000,000 pounds in 1895.

The number of cotton spindles in the leading countries was:

Countries.	1896.	1895.	1894.	1893.	1892.
Great Britain..	44,900,000	45,400,000	45,190,000	45,270,000	45,350,000
The Continent..	29,350,000	28,250,000	27,350,000	26,850,000	26,405,000
United States..	16,811,000	16,133,000	15,841,000	15,611,000	15,278,000
East Indies..	3,933,000	3,810,000	3,650,000	3,570,000	3,402,000
Total..	94,994,000	93,593,000	92,031,000	91,337,000	90,435,000

Germany has 7,000,000 and is adding hundreds of thousands each year. Saxony has 850,000 spindles in thirty-three mills, turning off annually 62,000,000 pounds of yarn.

WOOL AND WOOLEN PRODUCTS AND SPINDLES.

There are now 2,500,000 worsted spindles running (1,600,000 in a trust or combination).

There were imported in 1890, the last year for which I could find figures, 128,614,000 kilograms of sheep's wool, 13,367,000 kilograms of artificial wool (waste and combings), and 6,326,000 kilograms of combed wool. The exports were 9,014,000 kilograms of sheep's wool; artificial wool (waste and combings), 14,663,000 kilograms.

Germany's textile exports for the first three quarters of the last four years were:

Year.	Cotton.	Silk.	Wool.	Clothing.
	Marks.	*Marks.*	*Marks.*	*Marks.*
1896..	173,800,000	121,800,000	251,500,000	91,200,000
1895..	173,300,000	125,300,000	252,500,000	73,000,000
1894..	134,600,000	103,400,000	249,700,000	72,900,000
1893..	155,600,000	158,600,000	251,600,000	....

The Presidential election in the United States cast a shadow over the whole Empire. Up to that time, Germans had not known how necessary our markets were. The textile people, however, are too energetic to close their mills. They see the uncertainty of our markets. They know that a time is coming when we will make our own hosiery, dress goods, gloves, and laces. They have seen hose from New York, Fort Wayne, and Philadelphia better, at the price, than any produced here. They are turning their attention to other fields. Cotton mills were the only ones which did not suffer as a result of the election. It is only a question of time, however, when these will meet the fate of the jute mills. In 1896, as in 1895, mills could not keep up with orders. This is the condition to-day; but the danger lies in overproduction. Four new mills are opening in the Rhine country; 800,000 new spindles are to be put in motion. Austria, Italy, and England warn against the folly of too many mills. In Lancashire, in Oldham, in the very heart of England's cotton industries, ninety mills pay only 1 to 3 per cent, while many run at a loss. This, too, in spite of England's cheaper raw material, technical development, trained help, etc. Experts say England suffers, first, from too much having been paid for the mills when they were turned over to joint-stock companies, and, second, from her incapacity to organize her forces so as to get a maximum of result out of a minimum of effort; in other words, she wastes where Germans economize.

Germany has no lists of high-salaried officials, such as are found in the United States and England. The prosperity of Saxony, a cotton-spinning center, is well known. Here, 120,000 spindles were added in 1895–96, while concerns paid 10, 12, 14, 16, and 18 per cent dividends.

A commission is on its way to China and the East to study how best to build up trade in those parts. Dangers due to the fickleness of fashion, the instability of certain branches, notably silks and dress goods, are giving cause for anxiety. The demand for novelties, the eagerness to surpass others, the necessity of keeping skillful designers, of finding patterns for each part of the world, are among the many things that tax manufacturers.

Germany has the faculty of getting what is wanted. If the pattern is not in the Empire, she goes for it to France, England, or Italy. If she can not originate, she copies.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *January 28, 1897.*

MACHINERY IN GERMANY.

Every effort is being made in Germany to reduce the imports and increase the exports of machinery. Never was greater energy displayed or more satisfactory results reported. Still, England sends her annually hundreds of thousands of double centners, worth millions. This is especially true of spinning and curtain-making machinery. Her own knitting, dyeing, and finishing machines have made markets for themselves all over the world.

Imports.—Up to September 30, 1896, there came into the Empire 436,934 double centners of machinery, worth 24,241,000 marks ($6,000,000); for the same period of 1895, 337,723 double centners, worth a little less than 19,990,000 marks ($5,000,000); an increase for 1896 of 99,211 double centners (29⅓ per cent), worth over 4,251,000 marks ($1,000,000), or 21¼ per cent increase.

Exports.—The amounts exported were: For 1896 (up to September 30), 1,151,488 double centners, worth 75,438,000 marks ($18,750,000); for 1895, 971,599 double centners, worth 64,334,000 marks ($16,000,000), an increase for 1896 of 179,839 double centners (18.5 per cent), or 11,000,000 marks ($2,750,000), 17.2 per cent. These figures show 714,504 double centners more machinery, worth 51,193,000 marks ($12,500,000), exported than imported for the first nine months of 1896.

German textile manufacturers are jealous of the machine exports. They see in every machine sent out a factor in making trade with foreign countries difficult. Still, they know that England and France are only too eager to sell, hence no attempt has been made to restrict the sales of machinery. Increased efforts are being made, however, to guard the secrets that German talent has evolved. Strangers find it harder every year to gain entrance to factories or schools. Hundreds of German-made machines, copies of American and English devices, as well as machines invented here, are being sent to Russia, South America, and Australia, and even to the United States and England. The secret of Germany's success is to be found in her superior technical training and her efforts to find markets, as well as her economies at every stage from the raw material to the finished product. Her manufacturers and merchants are making efforts to get the monopoly of Russian trade. They see the need of outside products that their great northern neighbor has and will have for many years. One of the largest concerns of this city, employing between 5,000 and 6,000 hands, is building a large factory in Russia. German houses have resident agents in St. Petersburg, Moscow, Odessa, Nijni-Novgorod, etc. Since the last treaty with Russia, the gain in exports thither has been very satisfactory. Nobody knows better than do the Germans just how much sentiment influences regular, permanent trade. If we are to win wider fields in Russia, we must establish agencies and make efforts similar to those made by these people.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *December 5, 1896.*

GERMAN EXPORTS TO NEW SOUTH WALES.

Germany sent New South Wales in 1895 goods worth £425,697. The latter country imported a total of £15,992,415. Experts say Germany sent via England, etc., over £300,000 more, or, altogether, goods worth £750,000. Germany's exports thither since 1893 surpassed those of every other country except Great Britain; still, they are only one twenty-fourth of the total imports. In order to avoid the indirect roads thither, Germans are officially advised to send out commercial travelers and establish solid agencies. The business once started must be managed with care; the wares must be as good as, or better than, the samples, and they must be well packed; they must arrive on time and in good condition. These are the essential factors in opening new trade. The best way to arrange for payments would be to have the bill of lading taken up by the buyer after paying the account. To substitute a direct for an indirect trade will call for great efforts and hard, patient work, but it is the only safe and sure way to do business. Nor need manufacturers quote especially low prices; good articles command at all times, in New South Wales markets, fair prices. Good qualities get quicker sales at good prices than bad wares at low prices.

Up to date, Germany has sent cement, pianos, musical instruments, hardware, ready-made clothing, cloth of all kinds, shoes, wires, nails, hollow ironware, spirits, wines, beer, candles, sewing machines, tobacco, cigars, cigarettes, salt, chemicals, drugs, glassware, paper and paper ware, books, furniture, toys, trimmings, hosiery, and starch. Most or many of these might be sent by us. We have the advantage of cheaper freight rates and faster service across the Pacific. Few of the goods named are made as well here as with us. Any one familiar with the facts will wonder that it has been possible for Germany to sell goods worth even £425,697 with America and England as competitors. Her pianos, hardware, toys, etc., may be cheaper than ours, but do not equal them in quality. The Empire, however, knows how to win and keep the markets. The packing is perfect; the quality is, as a rule, equal to, or better than, the sample;

agencies are established. Commercial travelers, masters of two, three, and sometimes five or six languages are sent out. Their success is seen in the rapidly increasing exports of the Empire. When these are compared with those of England and other countries, the fact that Germany is poor in natural products and that most of her raw commodities come to her from other countries must not be lost sight of. It is to her industry that she owes everything.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *December 5, 1896.*

RUSSIAN RUBBERS IN GERMANY.

There is a large field here for rubber goods. Russia is doing what we should have done long ago; she has opened agencies all over the Empire for the sale of Russian-made rubbers. Compared with ours, they are clumsy and poor, having less rubber and consequently less elasticity and endurance. They sell because they are pushed and because they are somewhat cheaper. In 1889, Russia sent Germany 49,400 kilograms* of rubber goods; in 1891, 157,800 kilograms; in 1893, 286,900 kilograms; in 1895, 326,000 kilograms; and in the first nine months of 1896, 382,400 kilograms. For the first nine months of 1895 the amount was 206,000 kilograms. The Empire has had hard work to hold her own against Russia. The protective duties have done little to keep ont competitors. These are 60 marks ($14.28) on 100 kilograms (220 pounds), which amounts to 35 pfennigs (8 cents) on a pair of $1 rubbers; while Russia taxes 100 kilograms of such imports with 222 marks ($52.83), or 1.40 marks (33 cents) on each pair passing the Muscovite custom-houses. How much this means to Russia is indicated by the rapid increase of her exports of rubber goods to this country. The low tariff rates here have helped Russia to throw her surplus product into German markets, while her own high rates have completely kept out the German product. Since 1890, Russia has sold here from 12,000,000 to 13,000,000 marks ($3,000,000) worth of rubber goods, mostly boots and shoes; and these in spite of the fact that Germany's product is as good, if not better. Neither can compare with goods made in the United States. Only in recent years has the German begun to see the value, although for years he has felt the need, of wearing rubbers. The only way to sell goods is to send samples and get some one to push them. Circulars are not worth the paper upon which they are printed.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *December 5, 1896.*

---

*1 kilogram=2.2046 pounds.

THE UNEMPLOYED IN GERMANY.

Statistics were collected last year regarding the number of people out of work in this Empire. Each person who had not constant employment was asked: (1) Have you work at present? (2) If not, how long have you been out of work? (3) Are you unemployed because of any incapacity to labor? Of course, the census takers counted on much misleading information. However, it is not a hard task here, where so many registration methods are in vogue, to get reliable information. The object of the census was to obtain an idea of how many persons were really idle and the causes therefor. On June 14, there were 299,352 persons out of work; on December 2, 771,005. These figures relate only to persons able to work, except that they include persons temporarily out of work on account of sickness. These last must be left out if one wants statistics worth anything from a socio-political standpoint. Statistics as to the number of persons willing and able to work, who, because of changed or changing industrial conditions, are out of work are valuable. To get these facts requires work and skill. Experts must be employed in each branch, and even they will find it difficult to obtain all the facts. In the counts made, the sick were separated from the others, with these results: In June, 120,348, and in December, 217,365 were out of work on account of sickness; and 179,004 in June and 553,640 in December for other causes.

The sick are sure of support, thanks to the Government's provisions for insuring the masses. The second class is made up of two kinds of people—those who do not want work, and those who are willing to work, but not able to get it. How many are unwilling to work, it is hard to say. The Empire has 16,000,000 persons able to work. Of these, 1.1 per cent are idle in summer and 3.4 per cent in winter. When one thinks of the many causes by which men may lose work, 1 per cent is not large; but 3.4 per cent is, even in winter. These figures are explained by the fact that there were out of employment—

Description.	In summer.	In winter.
Agricultural laborers	18,492	158,340
Workers in stone, etc.	3,058	20,615
In building trades	19,408	145,121
Traffic	4,163	11,603
Hotel and restaurant	5,948	11,838

While the total difference in the numbers for the two dates taken was 374,636, these five groups show a difference of 296,498 against the winter. It is a well-known fact that in northern latitudes the winter season entails idleness upon hundreds who would willingly work. The nature of their employment will not permit of continuous labor. They must make enough in the months they do work to maintain themselves in winter or be maintained by others. To find profitable employment for these hundreds of thousands of idle hands is a socio-political problem calling for wisdom and statecraft of a high order. The efforts to find the facts are commendable.

J. C. MONAGHAN,
CHEMNITZ, *December 19, 1896.* *Consul.*

GERMAN EXPORTS TO ITALY.

The Export, the organ of the Central Association for Commercial Geography, has a letter from a German residing in Italy, and thoroughly familiar with the Italian market, substantially as follows:

Germany's trade and industry have already opened up a large field of operation on the Apennine Peninsula, but still further extension thereof is dependent on diligence and skill. There is still room for German articles in many directions.

German inks can gain more ground here. Many of them are already introduced, but, as yet, only in small quantities. Austrian inks have won much territory; this is the case especially with a certain Prague variety, which is nicely prepared and sold at prices that do not, in the least, correspond with its quality. The German product costs less and is better.

German stationery could be sold here largely; so, too, the Sönneken and similar goods. All that is necessary is that they should be better known; there is a large demand. One should not forget that Italy has far more universities, lyceums, colleges, etc., than even Germany. Faber's wares are already well introduced. The Schlagen durable pen has also recently become known. A merchant of Padua, the owner of an upholstery business, an Austrian by birth, introduced it. Thanks to clever advertising, he secured the trade of hundreds of Italian dealers in writing materials in a few weeks, all of whom now draw their supplies of this pen through this upholsterer. German writing machines, glass pens, etc., are bought here.

One day a firm in Leipsic sent me a few samples of their pretty little soap-powder apparatus, a practical domestic article representing at the same time a cheap chamber ornament. I was at the time recruiting my health at a little Venetian country place, and gave the intelligent local postman a sample to show around. In a few days, this young man took over twenty orders. Large quantities of such articles could be sold in the cities and towns. The thing is to make such articles known, and in this respect there is still much for us to do in Italy.

Religious articles will find a ready sale, notably in such cities as Rome, Padua, etc., where hundreds of houses dealing in these goods exist, and where thousands of pious pilgrims often enter in the course of a single day. German middle-class goods would suit well for importation.

In cosmetic articles, there is a wide field. Eau de cologne is being industriously advertised in the Italian papers of late by a German who resides in Rome. Here and there one also meets with German perfumery in the stores, but, on the whole, the English and French goods have too much control of the market.

German hair wash is too little known here. Much might be done in German hair dyes, which are far superior to the "Mignone water," an article of which millions of bottles are sold and of which one hears the complaint that it dyes the hair red.

In soaps, there is much that is bad, and it is always a merit to introduce articles of good quality.

In pharmaceutical preparations, the Germans find a market. Many firms advertise their articles extensively. Of late, one sees hundreds of advertisements of the ferruginous medicines made * * * near Mannheim. But some of these best medicines are, as yet, very little known. * * *

Reform is needed by the Italians in regard to underclothing. They do not seem to know that in southern climates wool has an enervating effect. Cologne dealers are seeking to introduce their porous linen underwear, and the same is being done by a Lennep manufacturer, with his sanitary underclothing made upon Dr. Thomalla's system. Both of these kinds of underwear present advantages for warm climates.

In stoves, kitchen ranges, etc., an ever-increasing demand is noticeable. The Italians are learning to recognize the fact that in their rainy, damp, and cold winter months, well-warmed rooms add much to the comforts of life, and they appreciate more and more our German heating arrangements.

What I would especially emphasize is Germany's educational auxiliaries, such as globes, wall slates, planetary systems, etc., which, in view of the great number of schools of all kinds, might find a large market. At present, the Bohemians supply the market in this respect, and we could easily compete with them.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *December 31, 1896.*

ARTIFICIAL SILK IN GERMANY.*

It is very generally known that a large proportion of the world's paper supply is made from straw and wood, but the production of silk from wood, and even cotton, is an accomplishment of comparatively recent discovery and has not yet been widely noticed. France is one of the greatest silk-producing countries of Europe, and in the manufacture of silken fabrics, she stands foremost among the nations of the world. The first discovery of the process for making artificial silk from wood is due to a Frenchman, M. De Chardonnet, and in France, in 1893, it was first proven that the process could be made a commercial success. Within the past year, another invention of artificial silk has been made by Dr. Lehner, a German, and is manufactured at Glattbrugg, in Switzerland, and at Bradford, England. This latest artificial silk is also made from wood, and is said to have much the advantage of the French production in being entirely noncombustible. According to an elaborate report from a prominent firm of chemists, after analysis and tests, the Lehner artificial silk is not more inflammable than ordinary cotton, being composed of pure cellulose only, and can therefore be worked up into dress goods, etc., without any danger of combustion. The artificial silk of French manufacture is said to be very inflammable and, on this account, not practicable for dress materials, since it is apt to ignite if exposed to fire or any extraordinary heat. The new Lehner artificial silk is steadily growing in favor in Germany and in England, the works in the latter country having been recently established. The modus operandi is somewhat similar to that of the silkworm itself. As in the manufacture of paper, the wood is first transformed into pulp. The fibrous texture of the wood is completely obliterated in the pulping process, and the pulp, after thorough cleansing, has the appearance and consistency of a thick gum. Such is all the preliminary work necessary. This plastic mass is put into cylinders, from which it is forced through pipes by pneumatic pressure into the spinning department. Here, the machinery is very similar to that of the ordinary spinning shed, except that one of these pipes passes to each machine. The pipes are supplied with small taps arranged close together, and each tap has a glass tube about the size of a gas-burner, at the extreme point of which is a minute aperture, and through this the pulp is forced. These glass tubes are called the silkworms, and some ten thousand of them are in use in one factory. The pulp appears as a minute globule. This a girl touches with her thumb, to which it adheres, and she draws out an almost invisible filament, which she passes through the guides and on to the bobbin. Then, one by one, she takes eight or ten such filaments, according to the thickness of the thread desired to be made, and passes them through the same guides and on to the same bobbin. The subsequent details are practically those of ordinary natural silk spinning.

---

* For previous reports, see CONSULAR REPORTS No. 177 (June, 1895), p. 266; No. 173 (February, 1895), p. 273); and No. 171 (December, 1894), p. 538.

The yarn is then manufactured and sold to weavers, who transform it into designs in cloth by existing machinery. As yet, the artificial silk can be used only on hand looms on account of its fragility. It is found that on taking a single thread of each (artificial and natural) sort of silk, the artificial breaks differently from the natural, being more brittle and having about 80 per cent of its strength. The Lehner artificial silk has not the same chemical composition as the natural, but its physical properties are so nearly the same that it is claimed that it will answer all the demands of the cocoon silk. The artificial silk is of exquisite brilliancy and much exceeds in luster the natural silk, which is really the only difference in its appearance. It is claimed that it also takes the dye more readily than the natural silk and affords more permanent colors (a quality not to have been expected), which is shown by the fact that manufacturers, when using great quantities, perform the dyeing in their own factories. At present, artificial silk from wood is more expensive than natural silk, but it is promised that constant experiment and manufacture will reduce the cost to much below its present value, and in this way the demands of the textile industry will be more than met. Of course, the threatened scarcity of silkworms for the manufacture of genuine silk will be obviated by the use of the artificial silk from wood and cotton.

The still more recently discovered method of making silken yarn from cotton, invented by Oswald Seyfert, of Saxony, is about to be put into practice in Germany and bids fair to become a rival of the wood-fiber silk, if its luster can be still further improved, although it gives a good effect now. It will also have some advantages over the wood-fiber product when its gloss is perfected and be very much cheaper. The process of manufacturing the Seyfert artificial silk is somewhat as follows: It is well known that cotton, by the effect of strong alkaline dyes, undergoes "mercerizing," or an essential contraction, which can only be prevented by keeping it in a stretched condition during the "mercerizing," as well as in the washing. By proceeding according to this principle, the contraction of the yarn is prevented. It will further be observed that the cotton assumes a silk-like and very brilliant appearance during such treatment. The inventor explains that he obtains this effect, which originally was not intended, by a special "mercerizing" process known only to himself (the exact mode not being given). A cotton yarn, or cotton spun yarn, with a beautiful silk-like effect and luster, is produced. He found that the silk-like effect is obtained much better and more simply by a process which consists of dyeing the cotton, "mercerized," as usual, in a strongly stretched state at a low temperature, and in immediately washing out without tension. This differs essentially in one or two points from the first-mentioned process of employing alkaline lyes. In the latter, the roving or spun yarn in stretched state has soda lye poured over it and the tension must so remain until the washing is completed. The special "mercerizing" process of the Seyfert artificial silk is thus considerably cheaper and shows the remarkable improvements made by the inventor over old methods. In the quality of artificial silk yarns from cotton, produced by the two just-explained methods, the difference is in favor of the latter process. The cotton-silk yarn produced by the first method with alkaline lyes is harder and more glassy and consequently more difficult to use in weaving than the yarn produced by the process just described. The prepared yarn is then treated to a bath in cold soda lye, of about 30° Baumé, until complete impregnation takes place. The yarn is then wrung out and hung on drying reels, which are so arranged that during the drying the yarn can be thoroughly stretched. The yarn is then washed as usual and is ready for the dye and subsequently for the weaving process.

The new artificial silk from cotton is very strong in texture and can be used with equal satisfaction upon hand or power looms, producing in design the same beautiful effect as natural silk. This new product from cotton is also said to take dye much more readily than natural silk, a fact made evident by the handsome colors of the specimens exhibited. In the manufacture of hosiery or of any material in which the Seyfert artificial silk is employed, great results are claimed. Washing will not in the least affect the silken luster produced by the cotton silk, a quality especially desirable in hosiery, etc.

Mr. Seyfert has made application for letters patent to protect his invention. It is anticipated that the introduction into Germany of this new and considerable industry, based on the use and manufacture of the Lehner and Seyfert artificial silks from wood and cotton, will mark an important epoch in textile manufactures.

GEO. SAWTER,
Consul.

GLAUCHAU, *February 5, 1897.*

EUROPEAN PRODUCTION AND EXPORTS OF IRON.

The last statistics concerning the European production of and foreign trade in iron give rise to a number of noteworthy observations.

Taking pig iron first, we find that England still stands at the head of the European states, for whereas the English production for the year 1894 amounted to 7,488,000 tons, it rose in 1895 to 8,022,000 tons, being an increase of not less than 534,000 tons. Germany, which stands second on the list, produced 5,466,000 tons in 1895, against 5,382,000 tons in 1894, an increase of 84,000 tons. England, therefore, shows a preponderance over Germany of about 450,000 tons. Even if the English pig-iron production should remain stationary at its present level, while Germany should continue to advance at the rate of progress it has pursued until now, the latter could not reach the stage of the former before about five years. Of course, such conditions are not to be expected, so that England, which only consumes a little more than two-thirds of its output, will long remain the most important factor in the pig-iron markets of Europe. Thus, England's exports of pig iron for 1895 amounted to 1,172,000 tons, while Germany's were only 220,000 tons.

France only produces about half as much pig iron as Germany. This production amounted in 1895 to 2,006,000 tons, against 2,078,000 tons in 1894, being a decrease of 72,000 tons. Austria-Hungary's output is about half that of France; it amounted to 1,025,000 tons in 1895, against 1,002,000 tons in 1894. Belgium produced 829,000 tons in 1895, against 811,000 tons in 1894. It may thus be seen that the output in these three countries remained nearly stationary.

With regard to the exports of pig iron, that of Belgium amounted, in 1895, to 24,000 tons, that of France to 185,000 tons, while Austria-Hungary only reached the insignificant figure of 10,000 tons. In the imports, Belgium stands at the head, with 268,000 tons in 1895. Germany imported 200,000 tons, Austria-Hungary 175,000 tons, and France 114,000 tons. England's imports are almost nil.

The relation between the production of, and foreign trade in, pig iron is the most unfavorable in Austria-Hungary and Belgium; for whereas the imports of Austria-Hungary amount to about 17 per cent of the home production and the exports to 1 per cent, and those of Belgium 32 per cent and 3 per cent, respectively, England, with almost a total absence of imports, shows about 14½ per cent of its production to have been exported. France shows about 6 per cent of imports and about 9 per cent of exports; Germany, about 4 per cent of imports and about 5 per cent of exports. It will thus be observed that in Germany the imports and exports almost counterbalance each other, so that one may say that Germany consumes the whole of its output, while, on the other hand, Austria-Hungary and Belgium import very much more than they export.

But the conditions are materially altered when we come to deal with the question of manufactures of iron and steel. As regards the production of these goods, Germany has long since surpassed England, and she is now rapidly nearing England's export figures in iron manufactures. In 1895, England manufactured 4,889,000 tons of iron and steel goods, while Germany turned out 1,312,000 tons more, that is to say, 6,201,000 tons. This gives Germany an increase of 307,000 tons, as compared with her production in 1894, which was 5,894,000 tons, while England, with a total production of 4,978,000 tons in 1894, has a decrease of 89,000 tons. As to the exports of steel and iron manufactures, those of England amounted, in 1895, to 1,950,000 tons, and those of Germany to 1,445,000 tons, a difference of 505,000 tons in favor of England. But this figure is materially weakened when we consider that England's imports were 313,000 tons, against only 105,000 tons into Germany. In proportion to the entire production of iron and steel goods, the exports of England, in 1895, amounted to 34 per cent and the imports to about 6 per cent; in Germany, this proportion was 20 per cent exports and somewhat less than 1 per cent imports. Germany exports fourteen times as much as she imports, and England only about six times as much. The entire array of these figures plainly indicates that the preponderance of the English iron industry in the markets of the world has been reduced, and that Germany will soon take England's place. "In no branch is this approaching downfall of England's industrial supremacy so patent," says Mr. Williams, "as in iron and steel."

In the other countries, we find that Belgium produced, in 1895, 1,101,000 tons of iron and steel goods, against 1,074,000 tons in 1894; France, 1,503,000 in 1895, against 1,599,000 in 1894. Of this output, Belgium exported about 48 per cent, or 558,000 tons, while her imports amounted to only 65,000 tons, or about 4 per cent of the production. France had an export of 162,000 tons, or 5 per cent of the production, and an import of 83,000 tons, or 2 per cent of the production.

In Austria-Hungary, the production of manufactured iron and steel amounts to only about half that of Belgium or France, one-tenth of that of England, and one-twelfth of that of Germany. Thus, in 1895, it amounted to 487,000 tons, against 465,000 tons in 1894. Germany exported almost three times as much as Austria-Hungary manufactured. Of the five European states under consideration, Austria-Hungary has the least developed iron industry, and it is not likely that the latter will advance very rapidly. The proximity of Austria-Hungary and her good transportation facilities will, therefore, hardly count for anything in the competition in the fast developing Balkan states, for she herself is still an importing country.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *January 5, 1897.*

FRENCH FLOUR IN GERMANY.

Since 1894, the German flour exports have been steadily decreasing. While in that year, the exports amounted to 1,883,735 metric quintals (of 220.46 pounds each), valued at about $5,000,000, they were reduced, in 1895, to 1,667,305 metric quintals ($4,500,000). During the first nine months of 1896, the exports amounted to only 1,080,010 metric quintals, against 1,130,535 metric quintals for the same period in 1895.

The reason for this is that the French millers have invaded what the Germans have hitherto considered to be their market and have undersold the latter, especially in Switzerland, Norway, and Sweden. They have also entered the German market and are competing to such an extent, especially with the South German millers, that these are demanding in strong terms protection from the Government. While in 1893, the French flour imports were only 740 metric quintals, they rose in 1894 to 3,750, and in 1895 to 9,450 metric quintals, to rise still further in 1896 (for the first nine months) to 21,121 metric quintals. Since then, it is reported that 30,000 metric quintals additional have been sold at the board of trade in Strassburg and 20,000 metric quintals more for the Upper Rhine, all at prices much lower than the German flour of equal grade.

This possibility of competition is due partly to reduced freight rates on French goods intended for export, but chiefly to an indirect export premium, which has been granted by the Government since July last. For the export of every 60 kilograms of flour the full customs duty paid on 100 kilograms of wheat upon its entry, amounting to 7 francs, is refunded; while to the German miller the amount of duty paid on 100 kilograms of wheat (3.50 marks) is returned only when he has 75 kilograms of flour ready for export. It will be seen, therefore, that the French millers have a great advantage, and the demands for Government protection will be understood. It is not likely that the duty on flour coming from countries which allow an export premium will be raised 100 per cent (which would make it 14.60 marks), as the chamber of commerce at Mulhausen insists. We may, however, look for some protective measure, and in that event the agrarians will certainly demand a proportional increase of duty on their wheat.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *January 8, 1897.*

SUPPLEMENTARY REPORT.

The German millers are extremely dissatisfied over the refusal of the Government to shut out from the German market all foreign wheat flour, or to give them such privileges (reduced freight rates and an export premium) as the French millers enjoy. Meanwhile, the French continue to invade the German market. Of the total imports of flour during the first two months of 1897, which amounted to 67,303 double centners, not less than one-third, namely, 22,759 double centners, were of French origin. Compared with the like period in 1896, this is an increase of 22,300 double centners and 13,319 double centners more than the total of French flour imports into Germany during the whole year 1895. Previously, Austria-Hungary was the largest seller on the German market and her exports to Germany during the first two months of the present year still appear to be 4,000 centners more than those of France, yet it is highly probable that the March figures, when they are published, will give France the first place. The United States participated during the first two months of this year with only 9,516 double centners.

The imports from Russia, Belgium, Servia, and Switzerland are too small to call for attention.

The German milling industry is also losing ground on foreign markets in favor of the French millers. Norway, which took in the first two months of 1896, 55,890 double centners, bought only 40,000 double centners in the corresponding period of 1897; England took 9,000 double centners, against 3,000 double centners this year; Denmark, 20,000 double centners, against 18,000 double centners.

France has struck a hard blow against the German milling industry, and it is to be hoped that the effect is not also felt in the United States.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *April 8, 1897.*

GALICIAN KEROSENE IN GERMANY.

It seems that a successful effort is being made by the promoters of the kerosene trade in Germany and Austria to develop the production of Galician naphtha, to the exclusion of the American and Russian product. The quantity of kerosene exported from Galicia in 1896 increased remarkably, compared with that of 1895, *i. e.*, from 38,627 quintals (8,515,708 pounds), valued at 280,000 florins ($113,680), in 1895, to 231,062 quintals (50,939,928 pounds), valued at 1,675,000 florins ($680,050), in 1896. The export of raw naphtha increased only by 3,600 quintals (793,656 pounds), and the total amounted to 18,147 quintals (4,000,688 pounds). The export of benzine in 1896 increased 535,000 florins ($217,210) over the export in 1895. Of this quantity, Germany consumes about 75 per cent, or 176,512 quintals (38,913,835 pounds) of kerosene, and about 85 per cent, or 155,026 quintals (34,177,032 pounds) of benzine.

Naturally, the most important question for the naphtha industry in Galicia is to win the market in Germany, and if they succeed, their export to the latter will, in the near future, greatly increase. It is well known that new industries are daily developing in Germany; that there are a large number of chemical, paint, india-rubber, and oil-cloth factories which consume naphtha products. The chances for Galicia's success, favored as she is by the German Government, are auspicious. Some time ago, the German Government sent to Galicia a party with the special object of investigating on the spot the commercial side of the business, with the result that Germany, after the report was submitted, ordered to admit free of duty raw naphtha from Galicia into the Empire for refining it there, as well as benzine, ligroin, and naphtha ether, when not intended for lighting purposes. These orders, of course, will greatly increase the development of the naphtha resources in Galicia, giving her an advantage on the German market over the American and Russian kerosene.

The quantity of naphtha produced in Galicia from 1888 to 1895 increased from 1,600,000 quintals (352,736,000 pounds) to 4,000,000 quintals (881,840,000 pounds); the increase can be given at 20 per cent in 1896. The prices there for raw naphtha never exceeded 1 florin (40.6 cents) per quintal (220.46 pounds). There is no doubt that the Galician naphtha producers will make every effort to extend their trade in Germany, and Germany understands very well that it is much more advantageous to work the naphtha at home than to pay Russia and the United States for it, and will therefore construct naphtha refineries.

The syndicate of kerosene producers in Austria, which some time ago was formed with difficulty, and whose charter will expire next April, will probably not renew it, since it gives no advantage to the holders. The inevitable strife between the owners of naphtha distilleries and the kerosene producers, who were always lowering the prices on raw naphtha, have forced the prominent naphtha owners to organize naphtha-distilling companies. One was constructed at Shodnikovsk, distilling up to 1,000,000 quintals; also, the Tautsk naphtha distillery in Odenburg, and the Galician Karpatsk Company, formerly Harvey, Bergheim & Co., each with the same capacity as the Shodnikovsk distillery.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *February 9, 1897.*

LYONS VERSUS ZURICH SILK INDUSTRY.

The delegates of the Lyons Silk Weavers' Association, who visited the Swiss National Exhibition held at Geneva in 1896, and thence proceeded to Zurich to examine in that industrial center the principal manufacturing establishments, have made a report. The following is a translation of certain parts:

THE EXPOSITION.

On entering the halls apportioned to the silk industry, we at once noticed the whole arrangements to be nearly an exact imitation of our own silk exposition in 1894, and after wandering through the different rooms we became convinced that the rich textiles on exhibition represented but a small portion of the large annual Swiss silk production, which, as statistics show, amounts to about 115,000,000 francs ($22,195,000).

The silk manufacturers we met at Zurich admitted having exerted themselves to the utmost to produce these tissues, partly to attract the attention of foreign visitors and partly to satisfy their national pride. But we must acknowledge that they do handle the two, three, four, five, and six shuttle-made looms with intelligence and good judgment in producing damasks. The manufacture of these rich materials gave them an idea of the difficulty and cost of their production; therefore, it is not likely that they will try to compete with this class of goods on the markets of Paris, London, America, and the Orient, but will, as heretofore, confine their attention to tissues of less complicated manufacture, which they produce just as well as we do, but not any cheaper.

Their exhibit showed no embroidered and embossed velvets suitable for dresses or fine furniture. The damask, brocatel, the lampas broché for church ornaments, the gauzes in their different forms, grenadine, silk mousseline, etc., will yet remain the monopoly of the Lyons manufacturers. They admit that the Lyons fabrics have the superiority of a century of experience in artistic combinations and skilled workmanship.

ZURICH.

After finishing our examination of the Geneva exhibits, we were anxious to see the industrial city of Zurich and to obtain an idea of its productive capacity and the economical status of the laboring class, four-fifths of which are women. The working space and arrangements of the factories are the same as in France, and they are provided with all kinds of looms. Those best equipped have replaced the old by new machinery, and electricity is used instead of steam as the motive power. The wages paid to weavers and others are higher by a few centimes than with us, although the necessaries of life are lower than in France. Rents, however, are higher in Zurich than at Croix Rousse (the silk-weaving quarter of Lyons), but the local situation in Zurich is better.

The city council has erected dwellings for the laboring classes; still, rents are high. A philanthropic society has been formed for the purpose of erecting buildings and renting apartments to the working people at reasonable figures. We have examined the plans and find that the interior arrangement will be comfortable and commodious.

ZURICH SILK FACTORIES AS COMPARED WITH THOSE AT LYONS.

At the close of last century, Zurich was credited with 1,000 hand looms, scattered over the canton in small home factories of a few looms each. In 1867, the power loom made its appearance and increased steadily in numbers, so that in 1895 the total number of power looms in operation was said to be 10,000, while the hand looms had also increased to 22,000 in Zurich and vicinity. The great Zurich corporation, with its kindred industries, employs about 75,000 hands, 80 per cent of whom are women and girls, and the value of the annual silk products is estimated at 115,000,000 francs ($22,195,000).

Lyons, at the close of the eighteenth century, operated 8,000 hand looms, scattered in numerous small home factories of from two to four looms each. The power loom was introduced in 1870, and in 1895, 25,000 power looms and 55,000 hand looms were in use. This great French industry, with kindred branches, employs about 250,000 hands, four-fifths of whom are also women and girls, and the annual product represents a value of from 360,000,000 to 400,000,000 francs ($69,480,000 to $77,200,000).

In comparing the progress of the silk industry in these two cities during the period of a century, we find that the development has remained normal. The relations in the use of tools and implements remained about the same, while the value of the product increased over 33 per cent in favor of Lyons. The difference is due, first, to the higher prices our manufactures command, and, second, to the fact that we have smaller workshops, which enable us to produce a better quality of goods than those made in large factories. These small workshops and equipments, the results of a century of experience and economy, represent an enormous capital, and are the principal source of the prosperity of our silk industry. Unfortunately, there is a dangerous tendency on the part of our manufacturers to replace the small workshops by large plants, which, in our opinion, would increase the cost of production and thereby prevent a successful fight against foreign competition.

We noticed one feature to which we would call attention. Early in September we visited the department of Isère, and in the latter part of the same month, Zurich. That period, as the Zurich as well as the Lyons manufacturers assured us, was one of great commercial depression. The factories were running on full time, notwithstanding the fact that no orders were on hand. Are not both localities manufacturing surplus stocks which must necessarily be sold at a loss when these goods are forced upon the markets? Such operations are always unfortunate, not only for the sufferer himself, but for the entire industry.

EUGENE GERMAIN,
Consul.

ZURICH, *February 10, 1897.*

MINERAL STATISTICS OF SPAIN.

Although the mineral resources of the peninsula are obviously inexhaustible, there does not seem to be much increase in 1896 over former years in the production.

The following table shows the production of minerals for the past two years in tons of 2,240 pounds:

Minerals.	1896.	1895.
	Tons.	*Tons.*
Coal	1,830,771	1,739,075
Iron ore	6,808,000	5,514,339
Pig lead	170,790	160,786
Copper	2,825,000	2,800,000
Zinc (calamine)	45,000	44,000
Iron pyrites	200,000	(*)
Manganese	100,000	(*)
Salt	350,000	(†)
	Kilograms.‡	*Kilograms.*‡
Silver	222,900	58,546
Mercury	1,513,998	(*)

* No figures. † In excess of the production in 1895. ‡ 1 kilogram=2.2046 pounds.

The imports of coal and coke from England in 1896 amounted to 1,681,378 tons. This is surprising, from the fact that Spanish coal is of fair quality and can be mined cheaply.

Of the iron ore produced, nearly all (6,289,257 tons) was exported, principally to Germany and England.

When we consider that nearly all the steel rails, machinery, and other products of iron required in Spain are imported, mostly from England, it does not speak well for the iron industry in this country. Manufacturers in this line in the United States might profit by this condition of affairs and push their wares into Spain.

ANDREW F. FAY,
Consul.

DENIA, *March 10, 1897.*

SPAIN'S PRODUCTION AND EXPORTATION OF IRON.

From recent statistical estimates, with official data, given by the board of mining, the following interesting figures showing the production of iron ore in Spain during the year 1896 are taken:

Provinces.	Quantity.	Provinces.	Quantity.
	Tons.		*Tons.*
Vizcaya	5,300,000	Oviedo	60,000
Santander	530,000	Malaga	38,000
Murcia	300,000	Nine other provinces	40,000
Seville	265,000	Total	6,808,000
Almeria	375,000		

Comparing these figures with the corresponding ones of the year 1895, an increase is shown in favor of 1896 as follows:

Provinces.	Quantity.	Provinces.	Quantity.
	Tons.		*Tons.*
Vizcaya	725,276	Almeria	175,489
Santander	81,714	Oviedo	747
Murcia	35,546	Malaga	20,497
Seville	143,192	Nine other provinces	12,199

The table of exports of iron ore gives a total of 6,263,473 tons, of which Vizcaya produced 5,830,000.

The Compañia Orconera takes first place in the list of production, with 955,033 tons; the Sociedad Vizcaya follows, with 150,000 tons. The Sociedad Fáárica de Mieres, of Asturia, has 25,000 tons.

During the past year, the factories of Vizcaya, Asturia, and Alava produced 246,326 tons of pig iron, exporting 23,805 tons, as follows:

To—	Quantity.	To—	Quantity.
	Tons.		*Tons.*
Cuba	31	France	566
Puerto Rico	12	Great Britain	2,884
Philippine Islands	2	Holland	4,860
Portugal	3	Italy	5,828
Germany	7,259	Total	23,805
Belgium	2,015		

R. M. BARTLEMAN,
Consul.

MALAGA, *February 14, 1897.*

SPANISH SILKWORM GUT.

An article of perhaps no little interest to many persons in the United States and of some substantial importance to Spanish industry is the so-called gut from silkworms. This is useful for fishing purposes, partly on account of its great tenacity and partly owing to its transparent quality, the line attaching the hook when in the water not being visible.

Since the decline of silk culture in this country, the industry of making these silk threads has increased, leaving the peasants some profit; the prices, however, fluctuate according to the value of the silk. The higher the price of silk, the fewer silkworms are used for fishing lines, and vice versa; yet about 4 per cent of the silk grubs are destined yearly for the above-named purpose.

The manner of obtaining this thread-like gut is as follows: After the grub has eaten enough mulberry leaves and before it begins to spin, which is during the months of May and June, it is thrown into vinegar for several hours. The insect is killed, and the substance which the grub, if alive, would have spun into a cocoon is forcibly drawn out from the dead worm into a much thicker and shorter silken thread, in which operation dexterity and experience on the part of the laborer are important. Two thick threads (from each grub) are placed for about four hours in clear, cold water, after which they are dipped during ten to fifteen minutes in a solution of some caustic, for which purpose soft soap dissolved in water is used here. This serves to loosen a fine outer skin, which is next removed by the hands, while the laborer holds the thread between his teeth. The silk is then hung up to dry, care being taken to choose a shady place, as the sun has the effect of making them too brittle afterwards. In some parts of the country, these silk guts are bleached with sulphur vapor, which makes them look beautifully glossy and snow white, like spun glass, while those naturally dried retain always a yellowish tint.

The quality of the gut is decided according to the healthy condition of the worm, round indicating a good quality and flat an inferior one; also, the length is important, 32 centimeters of fine, useful thread being sometimes made. The thickness depends also upon the condition of the grub. It is found to be as much as 1 millimeter in the Spanish insect, while those from Italy and Greece produce very fine and thin gut strings. These are, to some extent, imported here and sold again by weight at from $50 to $60 (United States) per kilogram. About 40,000 to 50,000 threads are in each kilogram.

The Spanish production is made up neatly in bundles of one hundred threads and sold by ten such bundles, or one thousand threads, at about $4 for the round kind and $1.50 to $2 for the flat kind.

The time for selling this article wholesale is during January, February, March, and April; the retail trade is during the summer months and fishing season. Although Murcia is the principal place of this industry, yet most sales are made outside of that city.

The peasants of Murcia raised their prices upon the slightest demand, which drove buyers from the place; the peasants now go every year with their goods, packed in boxes, up and down the entire coast of Spain on the Mediterranean as far as France. Valencia is considered the best market.

Orders from firms abroad should be given only to reliable persons here, who, at the same time, understand this article well. Direct negotiations with the traders should be avoided. This article offers too easy opportunity for fraud.

This United States consular agency is willing to answer any inquiries from American firms and will place them in communication with a reliable commercial house here.

THEODOR MERTENS,
Consular Agent.

GRAO, *January 16, 1897.*

CURRANT CROP OF GREECE.

In reviewing the currant crops of the seasons 1895–96 and 1896–97 it is found that although the latter is considerably less than the former, it was a more favorable year for both grower and shipper, as the prices averaged 15 per cent more this season than those of the previous year. This advance is due principally to the short crop. A comparative list of shipments to the various countries, from the commencement of the seasons 1895–96 and 1896–97 to February 1 of each year is given in the following table:

Destination.	1897.	1896.
	Tons.	*Tons.*
United Kingdom	61,000	64,000
Holland, Belgium, and Germany	21,000	19,000
Russia	19,500	10,000
United States	13,000	12,300
France	4,350	22,200
Trieste, Venice, etc	4,300	3,700
Australia (direct)	2,650	1,800
Canada (direct)	1,400	1,300
Total	127,200	134,300

It is estimated that 18,000 tons of fruit still remain in the Kingdom unsold. This does not include the Government retention of 15 per cent of all exports, which must be disposed of in Greece and consequently goes to the local distillers and is made into wine and cognac. Paragraph 2 of this retention law is as follows:

> Currants exported are subject to a duty, payable (deposited) partly in goods, partly in money. This duty on goods is exacted on 15 per cent of quantity exported, deposited in the form of currants, either in fruit of the same kind or differing in quality or district of growth, at option of depositor, or in money, to be calculated on the value of fruit deposited, based at 90 drachmas per 1,000 pounds, the Government being obliged to buy currants with the money so obtained and deposit them in the special stores, when it is able to buy fruit at a price not exceeding 90 drachmas per mille (1,000 pounds).

Germany has taken large quantities of currants this season for wine making. In 1895, heavy shipments were made to France, to be consumed in a like manner, but the high duty which she has recently imposed on this article greatly decreased shipments to her ports during 1896.

The import duties on currants in the various countries are as follows:

Countries.	Rate per pound.	Countries.	Rate per pound.
Russia	$0.0361	Belgium	$0.0131
France	.0216	Germany	.0086
Italy	.0175	Austria	.0065
United States	.015	England	.0043

Currants, which now form the staple commodity of Greece, were unknown in the classical age. The plant was originally derived from a kind of grape that had become wild, such as is even now found in many ravines. The Venetians found these wild grapes to be very common in the neighborhood of Corinth, from which town they derive their name.

There is no doubt that the almost exclusive attention paid in many districts in Greece to the cultivation of the currant vine has prevented other products from being raised. This is especially true of the grain crop.

The currant trade is the alpha and omega of Greek commerce. The success or failure of this crop is a vital question for the Kingdom. The bulk of the population, or at least the people of the Peloponnesus, are almost dependent on this little plant, and when a dry, sound crop has been safely housed the whole country wears a joyous aspect.

ROBERT LEE JENKINS,
Consul.

PATRAS, *February 19, 1897.*

AMERICAN TOOLS AND MACHINERY IN GERMANY.

In a report prepared at the request of an export association in New York, Consul Monaghan, of Chemnitz, under date of December 21, 1896, says:

In answer to your first question, Is most of the lumber that is worked produced at home or imported in the rough? I have to say that Germany imports quantities of all kinds of lumber, rough and hewn into heavy timber and sawed into boards. It comes from Russia, Norway, Switzerland, Hungary, the Rhine provinces, and Alsace. Spain, France, Italy, and South America send some fine woods for furniture and cabinet purposes. From these, she gets the "maser," or spotted, streaked, and veined woods. I may mention that no branch of the Government's methods of aiding industries is more extensive or is better conducted than that which deals with the forests. The laws relating thereto are among the wisest on the imperial statute books.

To the second question, Do Germans incline favorably toward foreign machinery or are they generally content to depend on domestic manufacturers? I have to say that Germans favor American machinery in the sense that they make a regular business of copying it, sometimes so successfully that a few years only are necessary to cut off all competition. It is hard to get German workmen to handle our tools and machines, although they admit their superiority. The reason, it seems to me, is in the higher prices which they have to pay. One of the most intelligent masters here told me that the buck saws used by carpenters, cabinetmakers, etc., cost 50 cents to $1, while for a good American saw, they must pay $3 to $5. There is only one way to get our goods among these people, and that is by opening branch houses here and in every large German city. It would be well to get a good man, an American, to show the goods; a German, all things being equal, will give his own people the preference.

To your third question, What country furnishes the largest amount of wood-working machinery? I have to say Germany itself builds almost if not quite all of it on American models or modifications thereof. There is a large factory for making wood-working machinery in a suburb of Chemnitz. The directors were at the Philadelphia and Chicago fairs; they bought American machines, copied them, adjusting and changing them to suit German tastes, prejudices, and circumstances. The firm is very successful.

I talked with a great many workmen and found that they did not favor American tools and machines, because they are too dear. This is true of almost all kinds. That they are better, simpler, more saving of time and labor, was everywhere admitted. One or two men went so far as to point out the differences, showing conclusively in each case that the American machines and tools are far superior to any and all others.

It occurred to me that one way to get our tools and machines into common use would be by getting them into the German industrial and technical schools, where apprentices might make themselves so familiar with them as to want them afterward. This might be done by selling to the schools at or even below cost of production. I can not, however, help saying here that one ounce of energy and effort put into South America, Russia, and South Africa would be worth pounds put in here.

To your fourth question, What make of American machinery seems to be the most favorably known in Europe? I have to say, first, I understand you mean wood-working machinery; second, some wood trimmers and box-making machines have been bought in large numbers, because an American agent, accompanied by a German interpreter, went all over the Empire selling from a wagon. An effort was made to stop this man's sales. Appeal was made to this consulate, which afforded assistance and the man continued his business. Recently, a law regulating sales by traveling agents was passed. It seems to me that we must have machines to save time and labor for makers of pianos, organs, cabinets, and all kinds of furniture. Such machines should find ready sales if properly presented; that is, if some one were sent to show the tools or machines and how best to use them.

To your fifth question, What class of wood-working industries is largest? I would answer, about the same as with us, except that here each city has hundreds of furniture makers, who, in small shops, turn out sets and parts thereof, besides doing all kinds of repairing. Chemnitz, with 165,000 souls, has four hundred in this class. Hamburg, Berlin, Munich, Mayence, and Stuttgart have large furniture factories; but their influence is by no means so far reaching as the Grand Rapids works and others in our country.

To your sixth question, Are furniture factories, box factories, and chair factories abundant? I have to say, no. Each town has its own furniture factories, if such the little cabinet shops referred to above may be named. Hand labor has never lost its hold here, nor is it likely to for a long time. The guilds have not given up all that they have gained by holding together for centuries.

To your seventh question, Are many of the carpenter and jobbing shops equipped with machinery operated by power? I would answer, no. Only two out of Chemnitz's thirty carpenter shops and none of the four hundred cabinet shops have any.

To your eighth question, Is much flooring or similar matched stock or its equivalent, produced; of what kind of wood is it mostly worked from, and is such stock principally for home use or export? I have to say that the floorings, most of which are matched, come from Sweden. Enormous quantities are used, because the Empire is building in every city. The floorings are mostly of pine, fir, etc., as with us. The better sort of buildings have what we would perhaps call inlaid floors; "parquet," they call them here. They are made of oblong pieces from 10 to 20 inches long and from 4 to 8 inches wide. They are usually of oak and are very expensive.

Ninth question, Are patents respected, or is there a general inclination to copy improved features as near as possible without infringing? Patents are respected and they are not. Our people could minimize their losses, not only here, but in lands to which Germans send excellent copies of machines invented in the United States. According to German law and practice, "the first applicant is entitled to the grant of patent rights," so that any person, whether the inventor or not, may obtain letters patent. The law provides, however, that "the claim of the petitioner to the grant of a patent is void if the essential part of his application has been taken, without permission, from the description, drawings, models, implements, or methods of arrangement of another person, should such person object thereto." Hence, it is very desirable, if one wants to patent anything in this Empire, to obtain and keep the written consent of the inventor. Another very important provision is that "to obtain a valid patent, absolute novelty is essential. An invention is not considered as new, if at the date of filing the application, the same has been so described in public prints within the last century, or so publicly used in Germany that the use of the same by other persons skilled in the art, appears possible." The official publications of foreign patent offices are considered equal to public prints after the lapse of three months from the date of publication, in case a patent is applied for by a foreign patentee or his legal successors. This last provision, however, only applies to the official publications of those states in which, according to a publication of the Imperial Gazette, reciprocity is guarantied. Such publication has not yet been made with regard to the United States and United States inventors can not avail themselves of the benefits of the provision.

The invention must be worked in Germany within three years from the grant of the patent. The law reads:

PARAGRAPH 11. A patent can be declared void after the expiration of three years, counting from the day after the publication of the grant of the patent, if the patentee fails to work his invention in Germany to an adequate extent, or at least, to do everything to insure its being worked.

Our machines are copied so successfully that they not only keep ours out of this Empire, but they beat us in South American and other markets. A firm in this district saw some pumps at the Chicago fair. On the way home, the head of the firm stopped at Seneca Falls and told the pump people that he would like to sell pumps for them, etc. They built six, the best pumps they ever turned out, putting this firm's plate on them. The pumps came; four were sold in different parts of the Empire, one was greased and put under canvas, and the other was taken apart and used as a model from which to make others. The latter are being sold all over the world in competition with those of Seneca Falls.

To your tenth question, Roughly speaking, what proportion of the wood-working machinery used is of foreign manufacture? I have to say, hardly any. Ours is so successfully copied that there is little or no need to import. Kappel and Plagnitz, both near Chemnitz, make for Chemnitz and environs; factories in other cities make for the sections of country in which they are situated.

To your next question, the eleventh, Generally speaking, what class of manufactured goods from wood are most generally produced? I would answer, such as are produced in our own or any important country—boxes, barrels, furniture of all kinds, toys in quantities, wagons, hand wagons, carts, etc. It seems to me that much of the wood used in the Empire for making wagons might be supplied by us. There is no nation that has hickory and wagon woods like ours. Parts of wagons might be sent and put together here; so, too, might parts of tables, chairs, etc. The duties are not very high.

To your twelfth question, Is it practical to send printed matter, letters, etc., in English, or should they be translated into German? It is practical to send printed matter; but never in English, always in German. It is entirely practical to send a German printed matter, because he is much more methodical and finds more time to read than do our business men. When he finds circulars or printed matter in his mail, he lays them aside to examine when time permits. He is not so fond of flinging such advertisements away as we are. Then, too, he is taught by experience to believe and rely on this form of announcement, since he seldom sees any other. Trees, barns, the sides of houses, rocks, etc., are never, as with us, covered with notices of the newest or oldest inventions.

Question 13: Generally speaking, are the manufacturers or users of such goods inclined to encourage correspondence with American manufacturers? Yes; but the knowledge German manufacturers have of our machines and methods of manufacturing is remarkable. While we and the English send our sons on yachting trips around the world, Germans send theirs, equipped usually with a fine technical education, to combine pleasure with profit. They note down every practical idea they encounter; they note the names of manufacturers; they order machines and make drawings of such as seem suited to their purpose; they make memoranda of prices, products, qualities, quantities, terms of sale, etc. Because of a report sent from this office some months ago, German manufacturers were warned to be careful whom they let into their shops, etc. Our manufacturers should take the same precautions; they have been warned. Many of the men with whom I have talked told me that the best plan to introduce our goods here would be to establish direct relations, so as to save the expense of the middlemen, of whom German workmen have a horror. The latter, they say, get, in Hamburg, from $10,000 to $12,000 per annum, besides paying rents, etc. All this, they urge, ought to be saved by building up a system under which orders can be filled from the factories direct. This, however, in my opinion, is hardly possible. The transportation of one article by post or express costs almost as much as the transportation of ten or a dozen. Profits would be eaten up by these charges. The best way, it seems to me, would be to get samples of German goods and imitate them, selling them cheaper, and to send samples of American goods to reliable houses here to exhibit and sell on their merits, making out catalogues, with price lists. Here, again, I must repeat that the places to compete with these men are in China, with its 400,000,000 of people wanting our civilization and wares; in Siberia; in Russia, with natural conditions and resources like our own, where cotton is found beyond the Caucasus, grain and cattle on the steppes, gold, silver, and other minerals in the mountains, and petroleum in the Black Sea regions; also, in the countries of South America, where the people, owing to the absence of or cost of producing coal, must remain for years dependent upon the manufactured goods of others. A permanent position in Germany, except for specialties, is hardly possible.

THE BEER INDUSTRY IN BAVARIA.

The little Kingdom of Bavaria is the center of the beer-brewing interests of Europe. It is here that this beverage is found in almost lavish quantities and as absolutely pure in quality as it is possible to be made, for the laws regulating the brewing and sale of beer are so strict and rigidly enforced as to render adulteration impracticable. Beer is regarded by the Bavarian not merely as a beverage, but as a part of the food of the people, and consequently, no pains are spared to keep the same positively free from impurities.

The local laws provide for the closing of all other places of business on certain holidays and during certain hours of Sunday, but no law whatever makes it necessary for the beer-restaurant proprietor to close his doors at any time, Sunday or any other day; and, indeed, any effort to enact or enforce such a law would meet with most lively opposition from the people.

The beer is sold everywhere throughout the Kingdom according to measure; no one who offers beer for sale dare use anything but the standard glass controlled by the Government, holding exactly half a liter (1.056 pints). The glass, to be genuine, must bear a mark near the top with the fraction "½" cut in. There are, of course, one-fourth liter and whole liter glasses, but these must also bear the marks and figures to indicate the size.

The ordinary or prevailing price asked for a half liter of beer is 12 pfennigs (2.856 cents). This price was fixed more than twenty years ago, when the Government made the change in its currency from guldens to marks. This, of course, is the retail price, the price at which the restaurants furnish the beer to their customers. The wholesale price is 17.50 marks ($4.165) per hectoliter (26.418 gallons), or 8.75 pfennigs per glass of half a liter. His profit is, therefore, on each glass or half liter, 3¼ pfennigs, or about nine-tenths of a cent.

The ordinary "American bar" is an unknown feature here. The restaurant, or room, where the beer is sold is provided with tables and chairs and the barrel or keg containing the beverage stands in full view of the customers. The beer is then drawn direct from the keg by means of a plain wooden spigot, and not through long metal pipes covered with ice. The kegs are brought every morning direct from the cellar of the brewery and the beer is therefore fresh and sufficiently cool. The use of ice is condemned, as ice-cold beer is regarded as unwholesome. In fact, the Bavarian considers that ice chills the beer and therefore destroys its life.

The beer is served to the customers at the table and is drunk very slowly, from a half hour to an hour being usually consumed in drinking a half liter. The custom of "treating," so much abused in the United States, is not in vogue here. Every one pays for his own beer, and therefore, no one is compelled to drink more than he wants. If several persons visit a restaurant together, no one of them thinks of such a thing as paying for the others. When the evening is over, each settles his own bill.

The stranger might think that where so much beer is consumed there must of necessity be a large amount of drunkenness, but this is not the case. It is a common thing to see on Sunday afternoon in summer 4,000 or 5,000 persons seated around tables in one of the city parks, listening to an open-air concert and drinking beer. The waiters are kept busy the entire afternoon, but no drunkenness seems to result therefrom.

The statistics bearing on the beer industry of this country are interesting. According to the last published figures, there are in Bavaria in all 10,718 firms or individuals that brew beer. This number includes the regular brewers, or those who brew for the general market; the "commun" brewers, or those who take turns at the same brewery and brew the beer they consume in their own restaurants; and "Haus" brewers, or those who brew for their own private use and not for sale. The number of regular breweries is 4,396; "commun" breweries, 564; but the number of "Haus" breweries is not given, except in the districts of Schweinfurt and Bamberg, where the number is 3,390. These breweries brewed altogether in the year 1895 (the statistics for that year being the latest published) 16,093,310 hectoliters (about 425,000,000 gallons) of beer. Of this immense quantity, 13,621,000 hectoliters were consumed in Bavaria and 2,472,310 hectoliters were exported.

The beer is made from barley malt and hops and in the brewing of the 16,000,000 hectoliters, there were used 7,101,276 hectoliters of malt. For the malt consumed, the brewers pay a tax to the Government of from 5 to 6.50 marks per hectoliter and this tax for the year named amounted to something over 40,000,000 marks ($10,000,000). There is, however, a provision that, for the beer exported, a rebate of about 50 per cent of this tax shall be allowed. As there is no tax on the hops, no official figures as to the quantity of this ingredient consumed can be obtained. The quality of the beer depends, of course, very largely upon the quality of the hops used, and as this varies constantly and considerably, as shown by the price, which in some years ranges all the way from 60 to 300 marks per centner, one can readily see that, to produce good beer, no little skill and care are necessary in selecting this ingredient. But the poorer grades of hops are not generally used, for as almost every one here is a judge of good beer, the brewer who would seek to profit by using a cheaper and poorer grade of hops would soon lose his business.

The quantity of alcohol contained in the beer consumed here is from 3½ to 4 per cent, but the export beer contains from 6 to 8 per cent. It is necessary to brew the latter stronger in order that it may safely stand transportation. As stated above, the brewer sells his beer to the retailer at 17.50 marks per hectoliter ($4.16½ per 26.417 gallons), and this is evidently a profitable business, for those engaged in it are all well to do, if not wealthy.

And now comes the point which has prompted the writing of this article, and that is the law relating to and regulating the brewing and sale of beer. This law requires that "braun" beer, or the ordinary beer consumed here, as well as exported, shall be made from barley malt, hops, yeast, and water, and that no other ingredients shall be used, and if a brewer be found violating its provisions he shall be subjected to a fine ranging from 180 to 540 marks ($42.84 to $128.52), and, in addition thereto, his beer shall be confiscated and destroyed. This law is enforced rigidly and diligently. All beer is carefully examined and analyzed by the Government officials and it is therefore simply a matter of impossibility for the wrongdoer to escape. It is because of this law, if for no other reason, that Bavaria can boast of having the best beer in the world.

This article is not intended as a defense of the beer-drinking practice or an argument in favor of beer as a food, but merely to raise the question as to whether a system of Government and state inspection of breweries, and a tax on the ingredients used in the manufacture of beer, similar to that in vogue in this country, might not be introduced in the United States with profit to both the people and the Government.

HENRY C. CARPENTER,
Commercial Agent.

FÜRTH, *February 20, 1897.*

MACHINE BUILDING IN RUSSIA.

The history of Russia's iron industries is interesting. It begins with Peter the Great, who, to teach and encourage his own people, hired the best technical talent in Europe to open mills among the bogs and marsh lands around St. Petersburg. To further encourage private endeavor, he granted privileges in the way of exemption from taxes and permission to employ serfs, and placed the manufacturers on a level, socially, with the nobility. He granted to some large sums of money with which to begin. The wisdom of his policy has never been questioned. Had he been followed by rulers as progressive as himself, the Empire would not need now the assistance of so many outside nations to supply it with articles of manufacture. Under the all-powerful influence of the old Russian party, little or no industrial progress was made. In remained for a woman, the energetic Catherine II, to arouse the rising Empire to a just appreciation of the part its great natural wealth would enable it to play among the world's industrial nations. What Peter, aided by such men as the German Henning and the Russian Demidow, had so well begun, Catherine continued, aided by the skill, wisdom, and energy of Gascoigne, a Scotchman, and Jarzow, a Russian. These men opened mines, rolling mills, foundries, etc. In 1790, Russia saw its first steam engine built. The imperial foundries that mold for the Empire's marine, even to-day, owe their origin to the enterprise and genius of Gascoigne. The first large private machine-building concern in the Empire (erected by Bird) is now in the hands of a Franco-Russian syndicate, which builds engines and boilers for steamships. Wilson, Gascoigne's successor, also a Scotchman, introduced, in 1802, the manufacture of agricultural machinery. The years 1815, 1818, and 1824 saw several large concerns added; but nothing like the progress made in other countries was recorded in Russia. In 1825, the first stone was laid for what was afterwards to prove especially interesting to Americans. I refer to the Alexander Foundry and Machine Factory. Intended originally for tool making, it was converted into a shop for locomotives, cars, etc. In 1844, it was placed under control of an American company, which put new life, not only into its workings, but into the whole Empire. To-day, this establishment is under State control. In 1850, the Government controlled nearly all the large concerns. Only twenty-five in the whole Empire were in the hands of private parties, and these turned out machines valued at 423,300 rubles, while the machines imported were entered as worth 2,315,000 rubles. After the war in the Crimea, under the enlightened patronage of Alexander II, new life was infused into machine building. Directly after the war, the privilege to bring in machinery by sea, hitherto prohibited, was granted. It was certainly an indirect, if not a direct, consequence of the war.

The rapid development of railroad systems brought with it great changes, if not reforms. In 1859, the high tariffs on machinery imported by sea were removed, to the lasting damage of the home industries. In 1860, the number of private concerns had gone up to ninety-two, the value of the product to 846,215 rubles, while the number of persons employed went up to 1,862 from 1,475. This shows, as hardly anything else could, the development of the Empire.

The ten years beginning with 1860 were profitable to those interested in the iron industries, both as merchants and manufacturers. They were allowed to import cast steel and iron for ship engines and machines, also for river steamers, free of duty. In 1869, an imperial edict permitted textile, paper making, book making, and agricultural machinery to come in free of duty. In 1861, the serfs were freed. This was a great boon to the builders of machinery. From 1865 to 1870, the development was so rapid that the product surpassed by many millions all of the preceding years. In 1870, there were 145 factories and 27,117 hands, turning out wares worth 23,391,755 rubles. The imports (machines, etc.) amounted to 37,576,654 rubles.

The decade 1870–1880 was progressive also. In 1877, the Empire made money by compelling importers to pay duties, not in credit rubles, but in gold or on the gold basis. This was equivalent to an increase in duties, but lacked the objectionable features inseparable from every effort, however honest, to satisfy all sections of a large country with diversified interests, when protective tariffs are to be adjusted. This was a time, too, in which high tariffs, backed by efforts in favor of technical schools, prevailed. Factories sprang up all over the Empire. In 1880, there were 237 factories and 56,165 hands, producing machines worth 72,289,200 rubles, surpassing for the first time in the Empire's history the amount imported (67,345,477 rubles). The dangers of overspeculation brought evils against which the Empire was at first unable to make headway. Instead of beginning on a small scale, with modest factories, building as the demand grew, the manufacturers constructed huge concerns, fitted up extravagant offices, appointed numberless high-salaried officials, and—failed. The best and most complicated machinery was bought in England, France, and other countries, and given to rough-fingered Russians, not to run, but to spoil. The auctioneer's hammer was heard on all sides. Factories that had cost fabulous sums of money were sold for a mere song.

Industrial economy now took the place of extravagance; protective tariffs were increased and extended to articles hitherto untaxed; imported textile, book, and paper making machinery was taxed. Agricultural machines still stayed on the free list, in order to facilitate progress from primitive methods. The result was that factories gave attention to the highly protected industries. This was also partly due to the fact that cast steel and iron, much of which was used in the manufacture of agricultural implements, had again been placed under protective tariffs. Since 1885, agricultural implements have paid duties, at first 50 copecks in gold per pood, and now 70 copecks; even this is not enough.

Had any one been willing to establish factories in Russia, to live there, becoming part and parcel of land and people—a thing to be demanded, if not expected—Russia might have taken her chances with the rest. The taxes on steel and cast iron, needed in the manufacture of ships, agricultural machines, etc., were not wise, however; they retarded, for a long time, the development of farming and delayed the development of internal commerce.

The following table shows the progress made in recent years:

In—	Factories.	Hands.	Value of production.
1885.			*Rubles.*
European Russia	266	37,928	34,978,000
Poland	70	4,854	6,372,000
Total	336	42,772	41,350,000
1887.			
European Russia	302	40,701	41,793,000
Poland	68	5,405	7,616,000
The Caucasus	10	410	312,000
Siberia	2	302	222,000
Total	382	46,818	49,943,000
1889.			
European Russia	331	44,360	46,882,000
Poland	60	4,908	7,784,000
The Caucasus	10	831	1,076,000
Siberia	4	319	416,000
Total	405	50,418	56,158,000
1890.			
European Russia	338	43,328	42,669,000
Poland	57	4,241	5,907,000
The Caucasus	13	1,213	1,131,000
Siberia	4	300	204,000
Total	412	49,082	49,911,009

To give a general idea of the growth of the machine-making industries in all parts of the Empire, I submit the following table. I may say here, to avoid error, that the figures given above apply also to machine building. In the following table, 1850 is taken as a basis for comparison. The actual numbers in 1850 were: Mills, 25; hands, 1,475; product, 423,390 rubles; imports, 2,315,000 rubles. To one factory, one workman, 1 ruble of production, and 1 ruble of imports in 1850 the other years have the numbers or ratios given in the table.

Description.	1860.	1870.	1880.	1882.	1883.	1884.	1885.	1886.	1887.	1889.	1890.
1 mill	3.96	5.8	9.45	9.36	9.52	10.44	10.64	11.12	12.08	13.25	13.52
1 hand	7.19	18.31	31.26	30.37	29.95	28	25.71	28.46	27.59	30.07	29.37
1 ruble of production	18.78	64.7	170.4	109.9	100.96	92.47	82.61	92.76	98.71	100.71	100.78
1 ruble of import	3.68	16.2	29.1	9.03	8.52	9.78	6.21	6.28	9.47	9.7	8.88

At present, in many branches of machine making, Russia is independent of the outside world. The kinds of machines she must still import—a matter that should interest us as much as Germany or England—are agricultural, textile, paper making, and printing machines and presses. Our makes of all these machines are not only better than those of England or Germany, but they are most admirably suited to Russian agricultural conditions, because agriculture in

Russia is conducted on the same extensive scale as in the United States. Many gas engines are being imported. The Empire builds now all the other kinds of machinery needed. Its locomotives look well, but are never so well built as ours. They work neither as long nor as well; after running a short time, they need all kinds of repair. An important fact is Russia's friendship for the United States; this may mean a great deal to her as well as to us in the coming years, during which Russia is to win that place among industrial states that a bountiful Providence has destined her to fill. If the progress of the past has been slow, that of the future is to be fast. The preparations now being made justify this assertion. Besides carefully prepared treaties of commerce, industrial, industrial-art, and technical schools are being erected all over the Empire. Most important among the many factors in the growth of the Empire are the new railroads and waterways that are being built. Great efforts will be made to bring the East and West closer together. Siberia is to be plowed, harrowed, and cultivated as are to-day our Western prairies. To do this, how many agricultural machines will be needed? Who is to supply them? We have several advantages—first, Russia's good will; second, our superior wares; third, the analogous agricultural conditions. These are all primary factors. The advantage possessed by Germany is the ability of her agents to speak Russian.

The efforts now being made to awaken renewed interest in the great northern Empire, with its vast, undeveloped wealth, its millions of people, its desire to take a prominent place in the ranks of industrial states, is my reason for reporting at length on a subject that more properly belongs in another consul's province. I find here that no intelligent effort to increase interest in Russia as a purchaser of German products is neglected.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *January 26, 1897.*

AMERICAN WOMEN AT ZURICH.

A society of American women students was organized in this city a year or so ago, its purpose being to promote friendly intercourse, disseminate useful information, and lend a helping hand to those women students intending to come here hereafter. A committee has prepared a circular as follows:

To American women students intending to visit the University of Zurich.

Although the gradual opening to them of the German universities is likely to decrease the number of American women studying in Switzerland, yet it is probable that, for a long time to come, many will prefer to work in a place where, as in Zurich, they stand officially on exactly the same footing with men. This circular has accordingly been prepared by the American women now studying in Zurich, in the hope that the information it contains may be of use to students who need to make their plans without any personal knowledge of the various European universities.

The university recognizes two classes of workers—the matriculated students and the hearers. The hearers are received without test of fitness, but are admitted to examination and receive certificates of having attended given courses of lectures only through the courtesy of the lecturers. The matriculated students have a few privileges not granted to hearers, and usually, though not necessarily, take an examination. The latter consist of the teacher, the doctor, and the State examination. Of these, the second is the only one likely to be of especial interest to students who intend returning to America. Information about them all may, however, be obtained by addressing the university.

As American students usually wish the doctor's degree, we describe somewhat in detail the line of work leading thereto.

A person who successfully passes the doctor's examination receives the degree of LL. D., Ph. D., or M. D. The length of time required for preparation is usually three to four years, except in the case of medicine, when five and a half years of very severe labor are necessary. A diploma from an American college is accepted in lieu of entrance examination. Certificates of successful teaching may also be accepted, but should be submitted in advance, as the decision appears to be made upon the merits of each case. In addition, a certificate of good character is necessary, and for an American, a passport.

In the medical school, the entire course is laid down; elsewhere, no course is formulated, but each student is required to choose one major (Hauptfach) and two or three minors (Nebenfaecher). Work is carried on almost entirely by lectures and laboratory work, with occasional quizzes.

There are no semester or annual examinations, as is so commonly the case in America, but the entire work is tested at its completion. The test consists of three parts. First and chief, comes the dissertation—a piece of original work prepared under the direction of the professor and treating a topic drawn from the Hauptfach. If this is satisfactory, then follows, second, the written work—the "Klausurarbeit"—an examination upon the Hauptfach, occupying about three hours, and written under supervision; and (in some departments) the "Hausarbeit," a paper on a theme drawn from the first Nebenfach, prepared at home with the aid of books, etc. If the written work has been satisfactorily accomplished, it is followed by, third, an oral examination in all the subjects.

It should perhaps be added that Zurich is distinctly a university rather than a college, and makes no provision for the guidance of those who are unable to work almost independently. A woman who has not had, before coming, the equivalent of a college training, is likely to waste a great deal of time and to obtain only very indifferent results. Newcomers, even when they have already selected the Hauptfach and have a considerable knowledge of the subject, often find much difficulty in deciding what lectures to hear. There is no central bureau of advice, and each professor naturally thinks his own line the most important. It is therefore desirable, if possible, to come for a little time at the end of a semester, when, by going into the various lectures and by talking with students, one may be able to reach a decision. The long vacations of six to ten weeks, which separate the semesters, make this plan difficult for one coming directly from America; as all lectures are open for the first week or two of the semester, a decision can then be made, though with some delay. A list of all the lectures to be given in any semester (Verzeichniss der

Vorlesungen) is published some weeks before its opening and may be had from the university.

The fees in Zurich are small. For a course of lectures coming once a week for a semester, the usual charge is 5 francs; for one coming twice a week, 10 francs, and so on. Seminars and quizzes are free. Even when a good deal of laboratory work is done, fees for the entire year rarely amount to more than $60 to $75.

There is no university library. Books are scattered among four or five libraries situated in different parts of the town and open usually only a few hours daily.

A few other points demand a word:

First. It is etiquette in Zurich for a student who is intending to take work with a given professor to call upon him in advance at his house, preferably between 11 and 12 o'clock, to announce her intention, and, nominally, ask his advice.

Second. It is impossible to state too strongly that no woman should come to Zurich with the immediate intention of university study, unless she has not only a reading but a speaking knowledge of German. Zurich is not the place to acquire this knowledge; the dialect which one hears almost everywhere in place of German and the number of foreigners of various nationalities in the town make it unsatisfactory for the language student.

Third. Pensions (boarding houses) are not usually good, and the price varies from 90 to 150 francs per month. Board in private families for about the same price can often be obtained. But the greater number of students take lodgings (usually a single room), get their own breakfasts and suppers, and go out to dinners. By this method a good manager can live comfortably for 95 francs per month. More elaborate housekeeping is usually possible only if one rents a suite by the year, and the difficulties involved in this mode of life are many and serious. Whatever style of life is chosen, it is usually wise to make arrangements as early as the middle of October or April for the coming semester.

Inquiries about the university should be addressed, "Kanzlei der Universitaet, Zurich."

The American women students have formed a committee for the purpose of aiding by information or advice their newly arrived countrywomen, and they will, of course, be glad to extend the same courtesy to English women.

A list of names and addresses of the members of the committee may be obtained from the Kanzlei or from the American consul. The consul kindly agrees to reply to letters of inquiry, and would be glad to receive American students on their arrival.

For the committee:

MARY ALICE WILCOX,
Professor of Zoology, Wellesley College.

EUGENE GERMAIN,
Consul.

ZURICH, *February 2, 1897.*

SHIPBUILDING IN EUROPE IN 1896.*

When one speaks of shipbuilding, England assumes a prominent position. The tonnage which is yearly set in the water from the shipyards of that country far surpasses the tonnage which in the same space of time is built at all the other shipyards in the world. The year 1896 has been unusually good for English shipbuilding, for, with the exception of 1889, it has never before reached such a great tonnage. To form an idea of its fluctuations for a long period, we give below the tonnage built in England for the last sixteen years:

---

* Translated from Dansk Söfartstidende, January 7, 1897, by Robert J. Kirk, consul, Copenhagen.

Year.	Tons.	Year.	Tons.
1881	1,000,000	1889	1,332,889
1882	1,200,000	1890	1,279,077
1883	1,250,000	1891	1,209,904
1884	750,000	1892	1,194,784
1885	540,000	1893	878,000
1886	473,675	1894	1,080,419
1887	578,668	1895	1,074,890
1888	903,687	1896	1,316,906

It will be seen from the above that the production at the beginning of the sixteen years was on the increase, and thereafter that it decreased greatly for the next three years, until the minimum was reached in 1886. Then comes a three-years' rise, followed by a decrease for four years, and then an increase for the last three years, of which 1896 far surpasses the other two. The conditions in 1896 were still more favorable than given, when one takes into consideration that in several private shipyards, men-of-war were built during the course of the year, only a part of which are included in the tonnage total.

The increase of tonnage in 1896 was about 240,000 tons, which has been almost equally divided among the greater shipyards. On the east coast, those of Blyth, Tyne, Wear, West Hartlepool, Tees, and Whitby built 150,000 tons more than last year; the Clyde, 60,000 tons; and Belfast, 18,000 tons.

Total in the different districts.

Districts.	Tons.	Districts.	Tons.
Tyne	246,882	Aberdeen and Dundee	9,433
Blyth	3,263	Humber	27,734
Wear	218,350	Firth of Forth	8,650
West Hartlepool	83,299	Thames	16,601
Tees	110,314	Mersey	19,266
Whitby	5,819	Maryport and Workington	5,554
Clyde	420,841	Various	6,590
Belfast	119,656		
Barrow in Furness	14,654	Total	1,316,906

By the greatest firms, there were built as follows:

Firms.	Tons.	Firms.	Tons.
Harland & Wolff, Belfast	81,316	Ropner & Son, Stockton	40,260
Sir W. G. Armstrong & Co., Newcastle	54,157	C. S. Swan & Hunter, Wallsend	39,603
W. Gray & Co., West Hartlepool	43,545	W. Doxford & Sons, Limited, Sunderland	39,533
C. Connell & Co., Glasgow	40,864		

In former years, the firm of W. Gray & Co., stood at the head of the list, with 63,086 tons, which this year is far surpassed by Messrs. Harland & Wolff, with 81,316 tons.

A comparison between the two great districts—the northeast coast and the Clyde—gives the following results:

Districts.	Firms.	Number of ships.	Gross tonnage.
Northeast coast·			
Tyne	13	131	246,882
Wear	13	84	218,350
Tees	5	61	110,314
West Hartlepool	3	32	83,299
Whitby	1	2	5,819
Blyth	2	3	3,263
Total	37	313	667,927
Clyde district	45	377	420,841

Of the ships built on the Clyde, 280 were steamers, with 374,027 tons, and 97 sailing ships, with 46,814 tons.

Besides several new types, as, for example, the trunk steamers, shipbuilding in 1896 has been marked by a continuation of the increase in the size of ships, begun in former years. As an example, we can name the firm of Harland & Wolff, Belfast, which has built 12 new steamers, of which 11 were over 4,500 tons each and the most of them over 5,000 tons; one of them, the *Pennsylvania*, reached even the size of 13,700 tons, gross register.

The figures for some of the other countries of Europe, as well as for the United States, in 1896, are the following:

GERMANY.

Flensburg Schiffsbau Gesellschaft, Flensburg—21,604 gross registered tons, with 8,050 indicated horsepower; on the ways, 13,600 gross registered tons, with 5,775 indicated horsepower.

Vulcan Shipyards, Stettin—two steamships, each of 10,535 gross registered tons, with 7,000 indicated horsepower.

Reiherstieg Shipyard, Hamburg—4,819 gross registered tons, with 2,400 indicated horsepower.

J. G. Tecklenborg, Geestemünde—3,010 gross registered tons, with 2,100 indicated horsepower.

Henry Koch, Lübeck—3,572 gross registered tons, with 1,780 indicated horsepower.

Total for Germany—54,075 gross registered tons, with 28,330 indicated horsepower.

NORWAY.

Bergens Mechanical Workshops—*Victoria*, steel screw ship, 965 gross registered tons, with 550 indicated horsepower; *Rio*, steel screw ship, 591 gross registered tons, with 400 indicated horsepower; *Hafnia*, steel screw ship, 966 gross registered tons, with 550 indicated horsepower. Total, 2,522 gross registered tons, with 1,500 indicated horsepower.

DENMARK.

Burmeister & Wain, Copenhagen—*Sleipner*, steel screw ship, 1,000 gross registered tons, with 2,300 indicated horsepower; *Livonia*, steel screw ship, 2,030 gross registered tons, with 800 indicated horsepower; *Standart*, steel screw ship, 4,200 gross registered tons, with 11,000 indicated horsepower. Total, 7,230 gross registered tons, with 14,100 indicated horsepower.

Helsingör Shipyards, Helsingör—*Atlas*, steel screw ship, 987 gross registered tons, with 400 indicated horsepower; *Pronto*, steel screw ship, 1,363 gross registered tons, with 600 indicated horsepower; *Gunther*, steel screw ship, 1,447 gross registered tons, with 600 indicated horsepower; *Regina*, steel screw ship, 2,163 gross registered tons, with 750 indicated horsepower. Total, 5,960 gross registered tons, with 2,350 indicated horsepower.

Total for Denmark, 13,190 gross registered tons, with 16,450 indicated horsepower. All ships built in Helsingör were for foreigners.

AUSTRIA.

Gross registered tons, 6,686; indicated horsepower, 11,960.

UNITED STATES.

Gross registered tons, 50,817; indicated horsepower, 48,847.

Prices, however, have increased along with the increase in shipbuilding in 1896, especially in the last half of the year. One of the main reasons for this must be sought in the many orders for new ships, which the great rise in freights occasioned. Materials have thus become about 12s. 6d. dearer per ton than they were a year ago, and at the same time wages have risen. For boats of medium size, one firm now demands £7 ($34.06) per ton, instead of £6 ($29.20) per ton a year ago; a second firm gives the rise per ton, for a steamer of 4,000 to 5,000 tons, at 12s. ($2.91); and from a third, we have heard it said that the ship which, at the beginning of 1896, could be built for £29,000 ($141,138), at the close of the year would cost £32,000 ($155,730).

THE SUGAR INDUSTRY IN THE WEST INDIES.

In view of the great depression in the sugar industry throughout the West Indies and in St. Christopher in particular, I have thought that the following information relative thereto might be specially, if not generally, interesting.

As is well known, the bounty system of certain European governments, calculated to foster the manufacture of beet sugar, has tended to gradually bring about the depression referred to, until, at last, the planters of sugar cane see that the time is near at hand when the death stroke will be given and their only industry be in utter collapse. With this gloomy state of things in view, some of the owners of plantations in this island, living in the United Kingdom, having other resources, and capitalists making advances on crops have deemed it in their interest to stop supplies, with the result that cane cultivation on the following nine estates (plantations) will cease as soon as the present crop has been harvested: Cranstouns, Caines's, Cunningham, Lavington's, Fountain, Saddlers, and Harris's, and Pinneys and Clarkes, in Nevis.

What this must mean to the laboring class, depending for daily bread on the only industry of consequence in the island, can be better imagined than described. The pinch is already felt, and if cessation of work continues to be the order of the day, the poor laborer must soon be forced to choose between starvation or emigration.

It has been argued that the owners of the plantations, or those advancing funds to them, have made a mistake which they will regret later on, since the property will become valueless; but when it is considered that the total cost of manufacturing a hogshead of sugar is £7 to £9 ($34.06 to $43.80), while the net result of the sale in the best-paying market shows but the equivalent of the cost of manufacture, and in some cases, owing to special conditions (such as the limited area under cultivation with almost the same current expenses as on larger plantations, the varying yield of the land, transportation, the kind of machinery employed, etc.), a deficit of some £2 10s. ($12.17), it is not to be wondered at that the knife has been put to the root of the cane plant, at least so far as special cultivation is concerned.

It recently happened to come to my knowledge that for the maintenance of a certain plantation for the past year, bills of exchange to the amount of some £2,400 ($11,520) had been drawn on the owners or capitalists in England, while the net proceeds of the sugar, rum, etc., failed to cover even one-half of the advance.

If such conditions resulted from drought, there might be a chance of improvement in the future, but when the cause is that insuperable obstacle, the bounty on beet sugar in Europe, little hope of amelioration can be entertained.

Those who still go on with the cultivation of the cane do so in the hope that something unforeseen will turn up by which their industry will gain new vigor; they postpone the evil day as long as they possibly can.

Reports to the mother country on the state of affairs have not been lacking, and have had the effect of causing an investigating commission to be appointed. Certain documents connected with the appointment of the commission having been published in the official paper, the Leeward Islands Gazette, I have made the following extracts:

SECRETARY OF STATE TO GOVERNOR SIR F. FLEMING, LEEWARD ISLANDS.

DOWNING STREET,
December 29, 1896

SIR: In consequence of the urgent representations which have been addressed to me in various forms both from the colony under your government and from the other West Indian colonies, bearing witness to the very critical position of the sugar industry, Her Majesty the Queen has been pleased to order a special inquiry and report to be made as to the condition and prospects of the West Indian sugar-growing colonies.

(2) I inclose for your information and guidance a transcript of a commission which has been issued by Her Majesty, appointing General Sir Henry Norman. Sir Edward Grey, and Sir David Barbour to be commissioners for the purposes of this inquiry, and Mr. Sydney Olivier to be their secretary. The commissioners will be accompanied by Dr. Morris, assistant director of the Royal Gardens, Kew.

(3) The commissioners have decided to leave Southampton by the mail of the 13th of January; to proceed first to British Guiana and thence in succession to visit Trinidad, Grenada, St. Vincent, Barbados, St. Lucia, the Leeward Islands, and Jamaica, remaining in each place for such a period as they may find necessary for their inquiries. They propose to take evidence from a limited number of representative witnesses on the questions referred to them and to make observations in person. Full details will be sent you of the particulars in which they will desire that you should assist their inquiries, and you will be informed as early as possible of the date at which they are likely to visit the colony under your government.

(4) You will have the goodness to publish this dispatch and the royal commission for general information without delay.

I have, etc., J. CHAMBERLAIN.

The commissioners, now making investigations in some of the Windward Islands, are expected to arrive here about the latter part of next month, and in case recommendations are made to the home Government that may be of interest to sugar dealers in the United States, I shall inform the Department.

LEWIS H. PERCIVAL,
Vice-Commercial Agent.

ST. CHRISTOPHER, *February 13, 1897.*

RAILROAD STRIKE IN ZURICH.

Thursday, March 11, at 12 midnight, all the operatives, about 5,000 in all, of the Northeastern Railway went out on a general strike, and from that period until 6 p. m. Saturday, the 13th, not a train moved.

The grievances consisted in the fact that, about a year ago, all the Swiss railway employees demanded a graduated readjustment of wages and reclassification of railway stations, etc. All of the companies agreed to comply with these stipulated demands, and a general strike was averted. The Northeastern Railway, however, failed to keep its promises, and after waiting nearly a year and finding that the company did not maintain its agreement, but in lieu thereof substituted rules annoying and obnoxious to its employees, the district executive committee of the Swiss Union of Railway Employees at Zurich sent the company a reminder, together with an ultimatum stipulating that unless concessions as originally agreed upon were strictly and promptly complied with a strike would be ordered and all operatives walk out at 12 midnight on Thursday, March 11.

The company's answer was again equivocal and not satisfactory to the heads of the labor organizations. The men left and a serious interruption to traffic followed. The Northeastern Railway is the only railway running into Zurich, and over its tracks the Oriental Express finds its way from Paris to Vienna. Further, this line, with its numerous branches, furnishes connecting links to nearly all other railways of northeast Switzerland, and is the main and almost only artery of commerce for that part of the country.

The men behaved well, no excesses or destruction of property were resorted to, as all had been enjoined by the heads of the labor organizations on being ordered out to abstain from excesses and drink and to respect and protect property during the duration of the strike.

The federal council was appealed to by the two parties to the controversy, and Mr. Zemp, federal councilor and head of the federal Department of Railways and Post Roads, was sent to Zurich to endeavor to settle the controversy. He came on a special train manned by a crew of the strikers. After nearly two days of pourparlers, he was requested both by the heads of the strikers and the railway company to act as arbitrator and he accepted on the condition that both parties agree in writing to abide unconditionally by his verdict, and that upon signing such agreement the strike should be declared off and all railway hands should resume work at once. To these terms, both parties acceded. The agreement was signed at 4 p. m. Saturday by the heads of the labor organizations and by the executive committee of the railroad company.

The stations all along the line were at once advised by wire that the strike was declared off, and all hands were requested by the chief of the labor union to man the abandoned trains, stations, switches, etc., and to resume work forthwith; and at 6 p. m., at the same time as in Zurich, traffic was resumed all along the line and branches.

The following verdict, as pronounced by Mr. Zemp, was handed to the representatives of the two interested parties the same evening and was soon known to every citizen:

(1) The mode of entering into service, timing, and the graduation of wages on the Northeastern Railway shall be the same as that adopted by and now in force on the Swiss Central Railway, except where at present such arrangements are more advantageous on the Northeastern Railway. The wages of day laborers shall also conform to those paid by the Swiss Central Railway for similar labor.

(2) New contracts shall be entered into with employees in accordance with the above and these must be dated as taking effect January 1, 1897, and work retrospectively, when in conflict with the advance of wages, as far back as January 1, 1896, on all wages increased by the Swiss Central Railway on that date.

(3) Regarding the indemnifying bonds required of employees, they shall have the privilege of either making a cash deposit or of furnishing bonds through an approved security company.

(4) The directors of the Northeastern Railway shall submit all of its stations to the proper authorities for reclassification.

(5) No employee shall be discharged or in any way molested for having participated in this late wage and strike movement by the company; nor shall any civil action be brought either against the committee of the central labor union or the employees, members of the central transportation union. It is further expected that the company will, by proper treatment of its employees, and the latter, by the faithful performance of their duties, do their utmost to conduce to the establishment of pleasant mutual relations.

(6) Both parties are invited to come to an agreement regarding wage and time contracts not later than May 1, 1897.

(7) If, in adjusting their differences in conformity with the above verdict, no agreement can be reached, then such differences shall be submitted to the undersigned arbiter for his final decision and adjustment.

(8) The further demands of the strikers are rejected. * * *

(9) Both parties shall be at once informed of this verdict.

ZEMP.

ZURICH, *March 13, 1897.*

From the above, it will be seen that the railway employees were victorious, carrying every point with the exception of their demand for the removal of three directors, heads of departments, which was rejected by the arbitrator as not consistent.

The sympathies of the public and press, as far as I have been able to ascertain, were with the strikers, and the verdict was hailed with great satisfaction, owing to the manly and sober conduct of the men during the strike.

EUGENE GERMAIN,
Consul.

ZURICH, *March 19, 1897.*

TREATMENT OF PLANTS WITH ETHER.

Consul Kirk, of Copenhagen, under date of February 19, 1897, sends the following translation from Dannebrog of February 12, 1897:

AN INTERESTING DISCOVERY IN THE PHYSIOLOGY OF PLANTS.

Mr. Johannsen, lecturer at the Agricultural High School, delivered a lecture two evenings ago on the results so far obtained by the etherizing method, which consists in developing plants earlier than is normal to them by exposing them to the influence of ether fumes. We give below the principal points of the lecture.

By exposing sleeping plants to the influence of ether and chloroform, the result is obtained that each plant, after the treatment with ether, begins to shoot; they have thus probably been awakened from their previous condition of sleep or inactivity. This sleep is due to a regular stoppage of activity, which causes the growth to cease.

It is on this cessation of activity that the ether has effect. The questions now arise, Has this discovery any practical interest for our gardeners? Can the ether dispel the condition of sleep from all plants? Can the plants, awakened before their proper time, develop in a normal manner and become useful and salable? The last question Mr. Johannsen has not yet succeeded in solving. The preceding (can the ether dispel the condition of sleep from all plants?) is, however, theoretically the most important.

Mr. Johannsen's first experiment was made with willow plants and next with bulbs and hyacinths. In the fall of 1894, he experimented with lilacs. As a result of these experiments, it was proved that the etherizing of the bulbs had no effect before the formation of the roots; the condition produced by the ether passed before the formation of the roots had advanced sufficiently to cause budding. Mr. Johannsen has also made some experiments with La Reine; the growth was considerable and the development of the bulb was in every respect satisfactory. The experiment was commenced on November 20 and on December 19 a part of the tulips were salable. The problem was solved as regards La Reine. It would, however, be of greater interest to produce lilies of the valley. The experiment in this direction in 1895 was promising, but the results this year were very poor.

Interesting and important are the experiments with ligneous plants. Lilacs grow splendidly when placed in an air-tight compartment and exposed forty-eight hours to the effect of 500 or 600 cubic centimeters of ether, and then placed in a hothouse. Just before Christmas, the plants had developed splendidly. The etherizing of the plants will cost 4 to 5 öre (1 to 1½ cents) each. The main point is to get the plants to shoot at any time before Christmas, even in September and October. Mr. Johannsen has had blooming lilacs on the 10th of September, but the plants did not develop regularly. It has, on the whole, been proved that the ether is not beneficial if applied before the middle of November.

The ether causes a derangement in the independence which should characterize each of the different stages of the plant. The development is not harmonious, owing to the too strong or too weak action of the ether. Mr. Johannsen will now try to gradually bring the plants to stand the action of the ether by giving them larger and larger doses. Experiments were made with certain seeds; for instance, the lupine grass and barley, and it was at once demonstrated that increasing doses of ether had a powerful effect. It is not so much the repetition of the ether which is

Paraffin Oil in the Netherlands.—Minister Quinby writes from The Hague, under date of March 8, 1897:

According to a royal order appearing in the Official Gazette of to-day, importations of paraffin oil intended for the preparation of quinine will be exempted from import dues under certain conditions imposed upon the person using the oil. It is required that he shall make proper application to the Minister of Finance, who shall fix the annual quantity allowed; that a guaranty be given for the dues on each importation; that the admission to the factory and the admixture with other properties shall be effected under the supervision of the excise officials; that the mixture shall be used for no other purpose than to obtain extraction from quinia bark, and shall be removed from the factory intermixed with quinia-bark refuse; that the collector of excise shall control the manufacturer's account with the Government; that the manufacturer shall tender a statement annually of the quantity of paraffin oil thus imported; that the excise officials are authorized within a week of the close of the year to make an inspection as to the quantity of paraffin oil remaining in the factory; and that the Minister of Finance may withhold the privilege of exemption from persons guilty of infringement of this order.

The Slate Trade in Belgium.—The Department is in receipt of the following from Consul Morris, dated Ghent, March 10, 1897:

Slate is not produced or manufactured at Ghent or in this immediate vicinity. Considerable slate is used here for roofing purposes and also for lining old-fashioned outhouses. About 6,000 to 8,000 school slates are sold annually in Ghent. Slate blackboards are not used. Slate for roofing is produced at Herbemont and Vieil Salm, in the province of Luxembourg, Belgium. There is also considerable slate imported. The number of pieces brought into the country during 1895 amounted to 37,719,682, valued at $145,598.15. The importations from various countries were, in 1895:

Countries.	Pieces.	Value.
England	660,400	$2,549.15
France	36,300,882	140,314.47
Germany	1,500	5.90
Grand Duchy of Luxemburg	693,500	2,676.91
Other countries	13,400	51.72
Total	37,719,682	145,598.15

The import duty on slate is 77.2 cents per 1,000 pieces. School slates come chiefly from Germany, from the house of Faber, the slates of this manufacturer being favored by the school authorities. They have special ruling and frames. To compete with them, other articles would be obliged to adopt a similar pattern, or, possibly, some better style, which would meet the approbation of the school authorities. The retail price varies from 20 to 25 cents. The wholesale quotation for an article about 8 by 11 inches in size, neatly framed, is at present 13 cents. Foreign roofing slate can not be employed on public buildings, as the Government provides in all its contracts that native slate must be used. In quality, Belgian slate is superior to the French article, its only considerable competitor. The latter, however, is better in form and appearance.

As showing the importance of the slate industry, it may be noted that the exportations for 1895 amounted to 15,236,737 pieces, valued at about $106,000. The figures for the principal countries were:

Countries.	Pieces.	Value.
Germany	7,097,600	$50,000
Grand Duchy of Luxemburg	3,795,800	26,000
Switzerland	1,946,450	13,600
Holland	1,003,578	7,000
France	604,750	4,000

To introduce American slate for roofing or other purposes on this market it would be necessary to meet the prices here prevailing and to furnish a quality which would compare favorably with the French article.

American Cheese in Germany.—Consul Tingle writes from Brunswick, under date of April 7, 1897, that he thinks American dairies would do well to turn their attention to the possibility of exporting their cheese products to Germany, especially, and to Europe generally. The consumption of cheese in Germany is very large indeed. While it is not possible to give exact statistics, it is not too much to say that, comparatively, it is much more universal than in the United States. In every family, it is a staple food article. Despite this general demand, however, cheese of the best quality is not cheap. The genuine Stilton (English), Edam (Dutch), and Schweitzerkäse (Swiss) brands are used more generally in well-to-do households, not to mention the more expensive French grades, such as Roquefort and Camembert, which we need not consider, since they are looked upon as luxuries and do not enter so generally into consumption. Among the working classes, an imitation of Schweitzerkäse and Landkäse (a cheese made by the peasants) are more in use.

The English, Dutch, and Swiss cheeses cost in the retail stores, per pound, from 2 marks (50 cents) for the best qualities to 1 mark

(25 cents) for ordinary grades. In no respect is the best Stilton, as sold in Germany at 50 cents per pound, superior to the best grade of American dairy cheese, selling at home, according to late market reports, at 10 cents per pound wholesale. It is evident, then, that allowing a liberal margin for profit and for transportation, the American cheese could easily compete with the other foreign cheeses now controlling the German market. As to whether they could so compete with the imitation cheeses more largely used by the working classes and costing about 15 cents a pound, only the American producers can judge.

But how shall the American dairymen introduce their cheese and get a share of the market? Consul Tingle says that as consular officers have repeatedly pointed out, it is not wise to turn the matter over to a German commission house, appointing such firm general agents. Experience has shown that such general agents seldom achieve satisfactory results in handling American products. The wisest course would be for several American dairy associations to send, in common, an expert abroad to carefully study not only prices, but the form and character of cheeses which the consumers here desire. This information having been obtained and the decision having been made that a market exists in Germany for American cheeses, the wisest plan would be for the associations together, or, if that is not practicable, for several dairymen together, to establish a general agency in Hamburg in charge of an American, able to speak and write the German language. This general agent should then employ traveling men to visit the retail dealers in different parts of the Empire. The duty is 2½ cents per pound. Such a business campaign, intelligently carried out, could hardly fail to be exceedingly profitable to the American dairy trade.

Increase of Duty on Leather in Sweden and Norway.—The following has been received from Consul Man, dated Bergen, March 27, 1897:

Owing to the approaching termination of the commercial treaty (Mellemrigsloven) between Norway and Sweden, the tanners of Norway have sent a committee to request the Storthing, now in session at Christiania, to grant an increase of the present duties on leather, as a protection against American and Swedish competition. It is not yet known what rate of increase is desired. At least two-thirds of the sole leather consumed in this country is of American manufacture. No one here, the press included, seems to be able to indicate the possible result of this matter, but, judging from the fact that the Swedish Riksdag has just increased the duties on leather in that Kingdom, it seems likely that the Norwegian Storthing may take similar action. In Sweden, a majority of 23 on a joint ballot of both chambers of the Riksdag increased the duties on leather, to take effect immediately, as follows:

Description.	From—		To—	
	Kroner.		*Kroner.*	
Sole leather......per kilogram*...	0.24	$0.0643	0.40	$0.1072
Finer leather......do......	.47	.1259	.65	.174
Shoes......per pair...	1.00	.268	2.00	.536

* 1 kilogram=2.2046 pounds.

Military Cloth and Boots Wanted.—The following from Consul Germain, dated Zurich, March 20, 1897, was given to the press by the Bureau of Statistics, Department of State, April 5:

In the Neue Zuercher Zeitung of the 19th, I find the following article, which, if given prompt publicity, might interest some of our manufacturers:

> The Basler Handelskammer (Basle Chamber of Commerce) publishes the following: "The Bulgarian War Department invites bids for the delivery of 95,000 meters of military cloth and 10,000 pairs of military boots. The Servian War Department wants bids also for the delivery of 1,500 horse blankets. For better information and terms call at or correspond with the office of the Basler Handelskammer, No. 40 Bael, Basle."

Should any American think it worth the trouble to figure and bid on the above, I should advise him to correspond at once and direct with the Ministry of War of the countries above named.

Water Franchise in Craiova.—An advertisement appeared on April 6 in the Schweizerische Handelsamtsblatt (Swiss Commercial Organ), of which Consul Germain sends the following translation, dated April 8, 1897:

> We, the mayor of the city of Craiova, Roumania, inform whom it may concern that on May 27, 1897, bids will be received for the purchase of a franchise to supply the city with water for domestic purposes for an extended number of years, said franchise to be sold to the highest bidder, as per ordinance adopted by the city council on February 12, 1897.
>
> Parties, firms, or corporations desirous of bidding on said franchise are requested to appear at the mayor's office at 3 p. m. on the date above indicated. Offers must specify for what length of time the franchise is desired, also conditions and other

eventual reservations, and must be accompanied by a temporary bond of 25,000 francs ($5,000), as per article 3 of the specifications.

Specifications and other instruments relating to the above can be seen daily at the mayor's office.

N. Naldarescou, *Mayor.*
Boboc, *Secretary.*

Consul Germain adds that Craiova has a population of from 25,000 to 30,000 and is about 120 miles west of Bucharest.

Cure of the South African Cattle Plague.—Consul Germain writes from Zurich, under date of March 20, 1897:

Professor Robert Koch is making good progress in fighting the cattle plague in South Africa. In his report, dated February 10, to the Minister of Agriculture of Cape Colony, he was already in a position to show some practical results of his vaccination method. He has succeeded, with the use of serum, in bringing about certain results. He writes:

> I can only insist that farmers, whose cattle are infected or in danger of contracting the disease, be at once informed of my method, for I am convinced that thousands of cattle can daily be saved thereby. The modus operandi in both cases (treatment with serum or the gall of infected dead animals) is very simple, but it is nevertheless desirable and important to post veterinaries and other proper persons as to my method. I am ready to open a course of instruction at the experimental station of Kimberley. It is also desirable to erect laboratories in other parts of the country and equip these with the necessary material under the supervision of competent persons.

Swiss Imports of Domestic Animals.—The Department has received the following from Consul Germain, of Zurich, under date of March 9, 1897:

Switzerland imported during 1896, as shown by official statistics, 13,208 horses (from Germany, 4,387; France, 4,282; Italy, 2,084; Austria, 2,455), valued at $1,782,469; 306 mules, valued at $20,040; 462 asses, valued at $14,512; 1,998 colts, valued at $197,914; 44,216 steers (from Germany, 5,826; France, 14,773; Italy, 17,495; and Austria, 6,122), valued at $706,054. There were imported 5,148 breeding cattle (Germany supplied 232; France, 242; Italy, 3,675; Austria, 949), valued at $407,365; 13,159 cows (Germany, 3,573; France, 2,971; Italy, 6,156; Austria, 459), valued at $948,237; 3,163 beef cattle (Germany, 909; France, 1,096; Italy, 1,118; Austria, 40), valued at $231,264; 7,743 yearling calves, valued at $343,226; 11,210 mast calves, valued at $223,353; 3,594 sucking calves, valued at $39,726; 86,742 hogs, worth $1,699,629; 113,029 sheep, worth $758,029; and 2,994 goats, worth $13,863. In all, 306,972

head, of a total value of $11,428,839. Switzerland pays out a good, round sum every year for foreign domestic animals, but the United States does not supply any of them. Italy, Germany, France, and Austria furnish them and divide the profits.

Replanting of Forests in Switzerland.—Consul Germain writes from Zurich, March 9, 1897:

During the year 1896, 8,042,065 young forest trees were set out in the denuded Swiss forest districts, as against 7,906,189 during 1895; of these, 7,231,705 were pines and 810,360 deciduous varieties. The canton of St. Gall leads, with 1,340,630 trees, while Zurich planted only 95,110 during the above-stated period. All of these plants were raised and supplied by the Swiss forestry experimental station, and the total expense incurred amounted to $53,809, of which the Federal Government contributed $27,279.

German Beet-Sugar Production.—March 18, 1897, Consul Germain writes from Zurich that the Deutsche Zucker Industrie, a German trade journal devoted to the interests of the German sugar industry, in its issue of March 12, estimates the coming sugar output for the current year as follows: Germany, 183,500 metric tons; France, 70,000 tons; Belgium, 27,170 tons; Sweden, 10,200 tons; Austria, 94,660 tons; Russia, 70,000 tons; Holland, 14,770 tons; other countries, 7,000 tons; total, 477,300 tons.

Picture Molding, Wire, and Hooks.—Consul Germain sends the following from Zurich, under date of March 29, 1897:

If manufacturers of picture molding, wire, and hooks will send me samples and prices, I think I can help to introduce these articles in my district (this city being the distributing center for Switzerland) and, for that matter, in the whole Swiss territory. I have visited every hardware and picture-frame shop in this city to ascertain whether these articles were kept on sale and found they were not to be had and were not even known. I would like to show the trade in this district that molding, wire, and hooks, as used in the United States, are better for the walls, more practical, and more pleasing to the eye in the hanging of pictures and mirrors than are the spike-like nails and heavy cords now in use. I refer particularly to Nos. 1, 2, and 3 galvanized woven wire, gilt, bronze, and various colored wood moldings, as well as brass hooks of assorted dimensions.

Projected Railroad in Bulgaria.—A communication has been received from Consul Stephan, dated Annaberg, March 19, 1897, as follows:

The Austrian Government has a system by which its commercial bodies are regularly and immediately informed by its diplomatic and consular officers of all bids called for by the Balkan states, and almost weekly a number of these calls for proposals are published in the trade journals. The Official Gazette of to-day announced that the Bulgarian Government calls for proposals for the construction of a railroad running from Roustchouk via Gornia and Orechowitza to Tirnovo, a distance of about 135 kilometers (82 miles). The proposals are to be addressed to the Ministry of Public Works and to be in by June 7 next, at 10.30 a. m. As security, a deposit of 530,000 francs ($102,290) in the National Bank of Sophia is to be made. All information, plans, specifications, etc., can be obtained from the Ministry of Public Works upon payment of 20 francs ($3.86).

Artificial Ice in Venice.—Consul Johnson writes from Venice, under date of February 18, 1897:

I have received information that a plant is to be established in or near this city for supplying the inhabitants with ice artificially produced. The ice used in Venice is without doubt the most impure that it would be possible to find in any civilized community; it is gathered from the ditches that are found on either side of the roads of the mainland and that receive and hold in deposit, when not cleaned out by inundations, all the refuse from the adjacent farmhouses and villages. This ice, long recognized as absolutely unfit for domestic use, has now been declared by the hygienic board of the city to be a great menace to the public health. The steps so far taken are due to the Société des Eaux of Paris, which constructed and controls the aqueduct which furnishes the city supply of water, and I would suggest that manufacturers of ice-producing machinery communicate without delay with said company. Its address in Venice is "Compagnia Generale delle acque, S. Benedetto, Palazzo Contarini 3980, Venezia."

The quantity of ice consumed in Venice is, on an average, from 7,000 to 8,000 tons a year, and owing to the recent introduction of refrigerators and the continual increase in the number used, as well as to the growing consumption of beer, the amount of ice consumed is destined to increase rapidly.

I would call the attention of manufacturers who may feel disposed to communicate with the company referred to, to the fact that letters or advertising matter in the English language will receive little or no attention; the language used should be Italian or French.

Spain's Production of Books.—The following has been received from Consul-General Bowen, dated Barcelona, April 5, 1897:

During the last five years, 16,463 books have been copyrighted in Spain, of which 10,000 are credited to Madrid and the rest to the other cities of Spain. The average number of books published in Spain yearly is 1,176, of which 790 are printed in Madrid, 239 in Barcelona, and the rest principally in Seville, Valencia, and Saragossa. The explanation of the paucity of literary productions in Spain is to be found, Señor Diaz Pérez asserted recently, in the fact that of the 17,500,000 inhabitants of Spain only 6,000,000 can read and write. That there should be a large demand for the works of Spanish authors might be inferred from the fact that there are 65,000,000 Spanish-speaking people in the world; but recent statistics prove that only 3 per cent of the Spanish books imported to the 38,000,000 Spanish-speaking inhabitants in the western hemisphere come from Spain, while the remaining 97 per cent are imported from countries whose language is not Spanish.

Visitors at Bohemian Springs in 1896.—Under date of April 1, 1897, Consul Hurst writes from Prague:

Statistics as to the number of visitors at the curative springs of Bohemia during the year 1896 have just been published and show a decrease in attendance when compared with the returns of the previous season. The falling off may be attributed to the inclement weather, which prevailed here last summer, and to unusual attractions elsewhere in Europe, notably the national expositions at Budapest, Berlin, and Moscow. Carlsbad had 42,448 visitors; Marienbad, 17,518; Franzensbad, 7,412; Teplitz-Schönau, 5,252; Johannisbad, 3,053; Königswart, 489; Bilin, 194; Giesshuebl-Puchstein, 568; Neudorf, 437; Annabad, 750; and Liebwerda, 480.

A Mexican Colony.—The following has been received from Consul Buford, dated Paso del Norte, March 17, 1897:

"Certain concessions having been obtained from the Mexican Government, a colonization company at San José, in the State of Chihuahua, Mexico, has been advertising their grant, under the name of 'Colonia Hidalgo,' as a desirable investment. The corporation stock was placed on the market and shares were sold at Kansas City and elsewhere in the United States. As in several American newspapers the said colonization company has been mentioned as being operated by Bishop A. J. Stewart, of the Mormon Church, I brought it to the attention of Mr. A. W. Ivins, the president of all Mormon colonies in Mexico, who now makes answer in a statement published in the El Paso Daily Herald of March 15, 1897. He says that neither A. J. Stewart nor his colony are in any way connected with the Mormon Church, except that Stewart says that he is a member of that organization. Some people have been led to believe that Colonia Hidalgo is a prosperous reality—a settlement with several hundred inhabitants; but from a conversation I had last week with President Ivins and another prominent Mormon, Mr. E. Eyring, I learned that the few people who had been induced to come to the Mexican concession as colonists left after a short trial, and that at present not a single family is living at Colonia Hidalgo. I thought it my duty to lay these facts before the Department and thus bring them to the knowledge of the public."

It should be added that Mr. Stewart, in a letter to the El Paso Daily Herald, which is published in connection with the statement of Mr. Ivins, above referred to, says that he claims no official agency or position in the Mormon Church, but that he is simply acting under a concession granted by the Federal Government of Mexico.

Coffee Exports from Santos.—Vice-Consul Haugwitz submits the following statistics covering the exports of coffee from Santos, Brazil, in 1896:

Whither exported.	Quantity.		Approximate value.*
	Bags.	*Pounds.*	
To the United States:			
New York	1,201,817	157,438,027	
New Orleans	51,242	6,712,702	
Baltimore	12,995	1,702,345	
Total to the United States	1,266,054	165,853,074	$20,000,000
To Europe:			
Hamburg	918,998	120,388,738	
Havre	541,835	70,980,385	
Rotterdam	519,547	68,060,657	
Trieste	362,501	47,487,631	
Antwerp	287,828	37,705,468	
Genoa	59,242	7,760,702	
Marseilles	58,767	7,698,477	
Bremen	56,418	7,390,758	
London	1,802	236,062	
All other	84,979	11,132,249	
Total to Europe	2,891,917	378,841,127	67,000,000
Total exports	4,157,971	544,694,201	87,000,000

*According to the vice-consul's estimate, the price of coffee exported to the United States was a little over 12½ cents per pound, while that exported to Europe was 17.71 cents per pound. The whole export was valued at 15.97 cents per pound.

Freight Rates from New York to Nicaragua.—Consul O'Hara sends the following inclosure in a letter dated San Juan del Norte, March 18, 1897:

THOMAS O'HARA, Esq.,
San Juan del Norte, Nicaragua.

DEAR SIR: In reply to your inquiry as to our rates of freight from New York to Greytown and Port Limon, at present we are charging to Greytown on measurement goods, 15 cents per cubic foot and 5 per cent; on weight goods, 35 cents per 100 pounds and 5 per cent. Present rates to Port Limon are as follows: Measurement goods, 14 cents per foot, net; weight goods, 35 cents per 100 pounds, net.

PIM, FORWOOD & KELLOCK,
Agents Atlas Line of Mail Steamers, 24 State Street, New York.

Quarantine Laws in Peru.—Under date of February 10, 1897, Consul Jastremski, of Callao, sends to the Department the following copy of a letter addressed to Hon. R. R. Neill, chargé d'affaires of the United States, Lima:

By previous agreement, the consular officers of Great Britain, Germany, France, Spain, Chile, and the United States met yesterday at the British consulate to confer about the quarantining of the Panama steamers at this port.

Owing to the lack of a lazaretto, passengers have been detained for days on quarantined vessels or quartered in a small and ill-adapted steamer, and in one instance conveyed to Arica for reshipment thence to this port. Meanwhile, these passengers have been made to pay extra (about $5 per day) for cabin passage.

Aside from the danger of contagion arising from such objectionable arrangements, some of the passengers find great difficulty in meeting the extra charges imposed. Mails are also withheld, which might be expedited after being disinfected, and additional charges imposed on merchandise.

It was resolved at said conference to deputize the consuls of Chile, Great Britain, and the United States to call on the prefect of the province in a friendly manner, with the view of obtaining through his influence an amelioration in the prevailing inadequate and objectionable system, arising chiefly from the lack of the lazaretto contemplated by the health laws of Peru.

I am pleased to inform you that the prefect agreed with the consuls and assured the deputation that he would at once communicate with the Government at Lima on this important subject.

In the evening, the mails aboard the steamer *Loa*, which is now in observation in the bay, because of a suspicious case of sickness aboard, were fumigated and brought ashore for distribution.

Exposition of Machinery in Lima.—Consul Jastremski, in a communication dated Callao, March 3, 1897, incloses a copy of a decree, as follows:

[Translation.]

PERMANENT EXPOSITION.

The President of the Republic, considering (1) that one of the means to promote the extension of the various branches of industry is to enable those engaged therein to obtain promptly a knowledge of the new machines and implements employed to produce articles of good quality at the lowest cost; (2) that these ends can be attained by establishing a center where said machines, etc., may be constantly exhibited and where full information in relation thereto may be obtainable by interested parties; (3) that Machinery Hall, at the palace of the Exposition, which has been placed at the disposal of the Minister of Public Works by the provincial council, is adequate and can easily be adapted to the purposes in view; it is decreed:

(1) That a permanent exposition of all kinds of machinery shall be established at the said hall.

(2) The said exposition shall be inaugurated on the 28th day of July proximo.

(3) Imported articles destined for this exposition which are not exempted from duty will have free dispatch through the various custom-houses upon the production of a bond guarantying the payment of the duties ordinarily levied upon such articles if they are not reshipped within the period of six months.

(4) The exhibition of the same article shall not be allowed for more than six months without special permission from the Government.

(5) The expenses for the preparation and permanent care of the hall shall be drawn from the clause of the budget in operation, and further provision shall be included in the next budget.

(6) The Ministry of Public Works is charged with the execution of this decree and with the duty of prescribing the rules and selecting the employees required.

Direct Trade with Iquitos.—The following has been received from Consul Mathews, dated Para, Brazil, April 3, 1897:

The steamer *Clement*, of the Booth Line, has just left Europe en route to Iquitos, in Peru, to open up direct trade with that part of the world. Messrs. Booth & Co., I have been informed, will have four steamers constructed specially for that trade. The establishment of this line can not fail to have a wonderful influence upon the commerce of the Amazon Valley. It will lead to the development of a region of country east of the Andes (known to be rich in minerals, timber, and rubber and having great agricultural possibilities) that up to the present time has been but little explored. When it is developed, Iquitos will become one of the most important interior cities of South America. The distance from Para to that city is 3,000 miles and the time required for a steamer to make the trip is from fifteen to eighteen days. In anticipation of the good results sure to follow the establishment of this transportation line, I hope that our merchants and manufacturers will see the necessity of beginning an early cultivation of the Iquitos market.

Demand for Rice-Hulling Machines in Madagascar.—Under date of February 18, 1897, Consul Wetter, of Tamatave, says:

I wish to call attention to the absolute need in such parts of this island as are actually under French dominion of small, cheap, hand-power rice-hulling and winnowing machines. Owing to the abolition of slavery, this work (rice hulling and winnowing), which was formerly done by slaves and women in wooden mortars and winnowed in baskets, has become a most serious question to the natives, and I can positively assert that a machine of one or two man power could readily be sold for cash in every village and hamlet in Imerina, Betsileo, Betsimisaraka, and in all the east coast territory. The simpler the machine, the cheaper its price (when combined with light weight for ready transportation), the quicker and larger the sales will be. A cheap machine, hulling and winnowing from a peck to a bushel of rice per hour, would answer the requirements of these people perfectly. Inventors and manufacturers should turn their attention to this as yet unexplored market, for which, on a conservative estimate, eight to ten thousand such machines would scarce suffice. At present, horse, water, and steam power machinery can not be placed to advantage in this country, hence any machines for native use must be hand power and cheap in price. My attention has lately been especially called to this matter by various missionaries, who have assured me that at every village the same cry met them: "We have plenty of rice, but can not get it hulled."

Australasian Gold.—The following has been received from Consul-General Maratta, dated Melbourne, February 28, 1897:

On the 31st of last December, the gross output from Australasian gold fields amounted, according to the published statistics, to 99,592,305 ounces, as follows:

	Ounces.
Victoria	61,034,884
New Zealand	13,312,837
New South Wales	11,710,510
Queensland	11,172,073
Western Australia	967,626
Tasmania	886,822
South Australia	507,553
Total	99,592,305

This enormous mass of gold represents the work of the miners from the discoveries in 1851 till the close of 1896, say forty-five and a half years. It will be noted that the total falls short of 100,000,000 ounces by 407,695 ounces. As this amount is very much less than the average yearly yield, it follows that the shortage will be made up very early this year. Moreover, figures show that the yield is increasing:

	Ounces.
1894	2,243,716
1895	2,359,244
1896	2,375,948

Assuming that the present rate is 2,450,000 ounces per year, Australasia must about now (the end of February) have achieved the proud position of having produced 100,000,000 ounces of gold; for, at the usual rate of production, January and February should show a total of about 408,000 ounces, *i. e.*, practically the shortage alluded to above. The share of the colony of Victoria in this marvelous work is noteworthy; she has produced more than 61 per cent of the whole mass.

Agriculture in Canada.—Consul Spence writes from Quebec, April 3, 1897:

At this early date, in this high latitude, with 2 or more feet of snow remaining, it is impossible to fully comply with paragraph 602, Consular Regulations, 1896. There will be no reports issued of the agricultural and horticultural industries of this region until about June 1. It is the general opinion that the hay crop this season will not be as large as usual. There was much cold and freezing weather last fall and early winter before the heavy snows, and the ground was frozen to a considerable depth, which is injurious to the roots. Early snows are a great protection from frost and insure an average yield of all kinds of grasses. The berry crop of this district is generally large, and the fruit yield small; neither can be estimated at this time. The weather for the past fifteen days has been very favorable for sugar making and the prospects are good now, and if the cold, frosty nights and warm, sunny days continue a few weeks the yield will be a large one. New sugar is offered on the market to-day in small lots at 7 to 8 cents per pound.

American Railway Project in China.—Under date of March 1, 1897, Consul Child writes from Hankow:

Messrs. Rich, Bash, and Butchard, American citizens, left Hankow this morning for Peking, traveling through the provinces of Hupeh, Honan, Shansi, and Chihli, for the purpose of surveying a route for a railway from Hankow to Peking and of deciding the practicability of bridging the Yellow River. They start well equipped with a retinue of seventy-five men (coolies) and expect to be seventy days in transit. They had an interview with the viceroy, who received them pleasantly and gave them much valuable information. The Chinese officials are awakening to the importance of opening up their country by means of railways, and are willing to render all the assistance in their power in the furtherance of that object. No one conversant with the latent resources of this country can doubt that trunk lines of railway will pay handsome dividends when completed.

The three cities of Hankow, Hanyang, and Wuchang have a population of over 2,000,000 and it is estimated that 50,000 persons arrive and depart from here daily, as this is the great central depot for the Han and Yangtze valleys. Thousands of junks lie along the river banks and the mouth of the Han looks like a forest of trees denuded of foliage. It is to be hoped that our people may secure a permanent footing in China, as there is a vast field for American enterprise. Now that the Chinese are willing to meet the foreigner half way, it would be well to take advantage of the opportunity. It is but a question of time when a line of steamers will be put on the Yangtze from here to Chungking and a line on the Han, which is navigable for over 600 miles. Above Chungking, the river is navigable, for small steamboats, several hundred miles through one of the most productive sections of China; in fact, the heart of the Empire.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) were transmitted during the month of April to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
G. W. Roosevelt, Brussels..	Feb. 27, 1897	Street sprinkling with disinfectants.	Department of Agriculture.
Do..........................	Mar. 18, 1897	..........do............................	Do.
A. D. Dickinson, Nottingham	Jan. 20, 1897	English dairy imports and prices of cereals.	Do.
P. B. Spence, Quebec.........	April 3, 1897	Crops, horticultural industry, and fruits.	Do.
Van Leer Polk, Calcutta......	Feb. 24, 1897	Official Indian crop reports..	Do.
Claude Meeker, Bradford..	Feb. 21, 1897	Draft horses in Bradford.....	Do.
Newton B. Ashby, Dublin..	Feb. 10, 1897	Irish agricultural statistics..	Do.
Henry A. Johnson, Venice..	Nov. 11, 1896	Telegraphic signaling on board ship.	Treasury and Navy Departments.

FOREIGN REPORTS AND PUBLICATIONS.

Portuguese Colonies in West Africa.—The Deutsche Kolonialzeitung, Berlin, March 27, 1897, contains a paper by Dr. Esser, from which the following extracts are taken:

Angola is of great importance to Portugal. During the recent financial crisis, the help received from her colonies saved the mother country. Angola has a number of fine harbors, such as Banana, Ambriz, Loanda, Benguella, Mossamedes, Port Alexander, and, best of all, though almost unknown, Tiger Bay. The southern part of the province is apparently a worthless stretch of sand, but the Portuguese have found treasures here in the way of nitrate and guano. The beds of periodical streams are also used for raising crops, with good results. The climate, especially on the table-lands of the interior, is healthful. The roads, thanks to the work of transported convicts, are very good. Many of the latter class have now become respectable citizens.

The interior is covered with dense forests. The *Acacia albida*, a large tree with a diameter of from 2 to 3 meters, is found in abundance; also, other trees of the same family, whose fruits are used for feeding cattle, but whose wood is too soft to be of service. There are numbers of blackwood and gum-arabic producing trees; also the useful *Dispyros mespiliformis*, besides the pterocarpus, whose wood, when burned, emits such a perfume that its use is the special prerogative of royalty. Sugar cane grows abundantly, and there are whole forests of coffee trees. In the country behind Mossamedes, the tree grows wild. Portuguese planters have burned out the orginal growth for many miles and have proceeded to cultivate coffee. Once planted, no further attention is necessary. Factories have been erected, to which the natives bring the beans which they cultivate themselves, in the woods. They receive a small recompense for each pound. The coffee is not of good quality, but the profits are excellent. Angola has only one railroad, although five are shown on the map; this runs from Loanda to Ambaca, a distance of 322 kilometers (200 miles). A short line runs from Benguella to the coffee woods.

Slavery is no longer the custom of the country, but the difference is very slight, as the laborers are entirely dependent upon their employers. They are paid at most 30 centimes a day (1 centime=about one-fifth of a cent), that is, 5 or 6 centimes in cash and the remainder in clothing and food. The currency here is also depreciated to three-fifths its ordinary value.

The principal industry of Port Alexander is the salting of fish. The water swarms with them, and although the most primitive methods are used in catching them, a boat with four men brings back regularly as the result of a day's work from 50 to 80 kilograms (110 to 175 pounds). The coast as far as the eye can see is covered with fish, to be dried and salted with nitrate. The odor on hot days is unbearable. The air is full of birds and of nights hyenas, jackals, leopards, and even lions come to steal the fish. The unarmed fishermen are practically helpless.

Thirty kilograms of salted fish are worth 4 marks (about $1 per 60 pounds). The export from Port Alexander in 1895 amounted to 300,000 marks ($71,400). Tiger Bay is even richer in this respect, the hundred fishermen who work there having caught 750,000 kilograms (1,653,450 pounds) during 1895. Whales and an excellent oyster bed have been found in the latter place. The great drawback in Port Alexander is the scarcity of drinkable water.

Elephants, giraffes, buffaloes, and zebras are the wild fauna of the country. The natives raise goats and cattle. The Chella Mountains have rich deposits of gold, which are worked by the negroes, the latter, in this locality, being intelligent and progressive.

A Sugar Refinery in Mozambique.—The Deutsche Kolonialzeitung, Berlin, March 20, 1897, has the following from a correspondent in Chinde, under date of December, 1896:

It may be of interest to your readers to know that there is a large sugar plantation in Zambesi under Portuguese management. It has been established some four years, and is equipped with the best machinery. It includes 500 hectares,* is provided with canals and drains, and has now a promising crop. In 1893, there was a product of 600 tons of sugar; in 1894, 800 tons. The grasshoppers caused a failure of the crop in 1895, but in 1896, the first year in which steam plows were used, 1,300 tons were produced (of which 300 tons were used in distilling rum). This is the limit of the capacity of the refinery, while the canes are capable of yielding twice or three times as much. Large additions are now being made, and are expected to be finished by the 1st of June, the beginning of the season. The establishment will then be able to supply 2,500 tons of sugar and from 30,000 to 40,000 decaliters (in round numbers, 300,000 quarts) of rum annually. The sugar finds a good market in Lisbon, since it has been exempted from half of the customs duty on entering Portugal. The rum is sold on the east coast and in the Transvaal, and since, according to agreement, imports from Mozambique are allowed to enter free of duty, the company has an advantage here also. The port of Chinde is in direct communication with the plantation, and the latter is sure to develop to a remarkable degree.

Portuguese Colonial Finances.—The Boletim da Sociedade de Geographia, Lisbon, No. 6, says:

The commerce of our African colonies has assumed important proportions in the last few years. Its results have been noticeable during the financial crisis which has oppressed us since 1890, the effects of which have not yet wholly disappeared. The market of Lisbon was able to maintain a certain standard and suffered from no serious shocks on account of the colonial commerce. It may be well, then, to study our African settlements. Let us begin with Cape Verde.

The province has not yet developed commercially, owing to the long, dry seasons. Less attention should be given to agriculture and more to the cultivation of trees. St. Vincente is the principal port. The most important articles exported are coffee, Indian wheat, and, most of all, the castor-oil plant.

The commerce of St. Thomé has more than doubled in the last ten years; in 1894, the last available statistics, it amounted to $2,247,480 (at the rate of 1 milreis = $1.08). The imports consisted to a considerable extent of national products, and the exports were exclusively to Lisbon. Coffee and cacao were the principal exports.

Angola is a true Portuguese colony; foreign influences are insignificant, and its commercial condition is encouraging, having tripled in the last ten years. In 1893, the commerce reached $13,522,683. The railroad completed in 1889 has contributed to this prosperity.

---

* 1 hectare = 2.471 acres.

Mozambique should give equally satisfactory returns; but the condition of this colony is unique. Following the practice so successful in other countries, a colonial company has been formed. The experiment is as yet in its beginning; with perseverance, its results will doubtless be what its promoters have hoped. With tariffs so reduced that the colony will be able to compete with Nyassa and the Transvaal, its future is promising. Its commercial movement in 1894 was $6,763,610.

From a financial and economical standpoint, Portugal should study in every way how to improve her colonies. Several of the latter are already sufficiently developed to be remunerative. The vast regions, richly endowed by nature, can furnish to the mother country incalculable elements of regeneration and political influence. The receipts show encouraging growth; the expenses have not been serious, when the work accomplished is considered. At present, Portugal spends for public works in Africa more than constituted in 1852 the entire expense of the colonies. Our commerce with the latter is an important source of revenue for the metropolis, and no insignificant element in the Lisbon market. When compared with other foreign colonial enterprises, our own offer many points of advantage and encouragement. With careful management, their prosperity is assured.

Aids to Colonial Development; Botanical Gardens.—The Journal des Débats, of Paris, March 20, 1897, has the following:

A nation that desires to form colonies will find that the conquering of the territory is hardly the beginning of her task. The resources of the country must be studied and appraised; the agricultural and geological map of the land must be prepared; the soil must be analyzed, native plants catalogued, foreign ones introduced, the best selected, and, finally, methods adopted to in every way advise and assist the colonists.

The botanical gardens of our colonies were formerly rich in plants and cuttings, which were generously distributed. Unfortunately, the same can not be said to-day, and our rivals (England and Holland) could teach us useful lessons. The Dutch have organized at Buitenzorg, Java, a first-class establishment, where plants are cultivated whose products can be used in the industries, such as rubber and camphor trees, bindweed, gum plants, etc. These are introduced into the neighboring Dutch colonies. Laboratories have been established, pamphlets are published, and photographs prepared to advertise the useful plants of the colonies and their products.

The English have accomplished still more. The large botanical garden Kew, known all over the world, is in correspondence with eighty similar establishments in English possessions—India, Guinea, Canada, Ceylon, etc. From each, Kew receives plants, seeds, etc., which are cultivated with great care, not only in samples, but in sufficient number to be sent later to other colonies. The Germans, at Berlin, and the Belgians, at Jembloux, have similar institutions.

There is nothing more difficult than to transport plants, and, on the other hand, nothing more useful. The majority of industrial productions which constitute to-day the wealth of colonies are imported. Is coffee cultivated only in its cradle, Arabia? Has not the cacao tree, first found in Mexico, been carried to Java, and the vanilla tree, of the same place, to Réunion? The advantage of transporting jute, now the monopoly of India, rubber, quinine, gum, and clove-producing trees, as well as ornamental plants, to climates where the conditions would be favorable, is obvious. It will be found, however, that very few seeds retain their germinative quality long enough to permit a change of locality, especially when the voyage is of some duration, for instance, from Indo-China to the Antilles or the Kongo. The plants themselves are too delicate to be transported. A botanical garden that can receive them and allow them to recuperate, as it were, from the voyage, before continuing to their destination, is indispensable to scientific agricultural development of the colonies.

A German Colonial Museum.—The Revue du Commerce Extérieur, Paris, March 20, 1897, says:

The German Colonial Museum, which was planned as a consequence of the exposition opened last year in the park of Treptow, seems about to become a reality. The committee which had the project in charge is occupied with the formation of a company with a capital of 250,000 marks ($59,500), with shares of 500 marks each. A circular has been issued to subscribers, giving the objects of the museum, as follows:

"Exposition of the products of the colonies, representing imports and exports; publication of all commercial information in regard to the colonies; representation of life in the colonies for the white settlers as well as for the natives, which will be given in the form of models of arms and instruments, pictures of the principal centers of commerce and production, sections of buildings and plantations, etc.; lectures on colonial questions, hygiene, statistics, geography, history, etc."

The museum is expected to be comprehensive in its scope and to accomplish valuable results.

Commerce in the Dutch East Indies.—The Revue du Commerce Extérieur, Paris, March 20, 1897, has the following from a correspondent in Batavia, Java:

The commercial movement of the Dutch East Indies in 1895 amounted to $65,035,447 in imports and $90,485,299 in exports. In 1894, the imports were to the value of $70,435,522 and exports $80,435,502. The imports for 1894 and 1895, by countries, are given as follows:

Countries.	1894.	1895.
Netherlands	$18,015,017	$15,284,461
England	7,997,741	7,505,329
Germany	335,743	261,312
France	269,080	261,252
Austria	145,028	137,680
Italy	116,692	82,320

There is a good market here for corks. They should be in two qualities, one for good wines, etc., the other for the inferior drinks made in China.

Commerce of Greece in 1896.—Reuter's Finanz Chronik, London, March 27, 1897, says:

The imports of Greece during the year 1896, in special commerce, amounted to 113,604,615 drachmas,* against 109,610,203 drachmas in 1895; the exports were to the amount of 27,860,431 drachmas, an increase of 1,704,169 drachmas over the preceding year. The conditions of trade showed little change during 1896. For years, the imports have exceeded the exports by some 40,000,000 drachmas; the increase of nearly 4,000,000 drachmas in the former is to be attributed to the Olympian games, which took place in the spring, and will probably not be repeated. The exports have remained almost stationary, a natural result of the unprogressive spirit apparent in Grecian industry and of the lack of Government aid. The principal import consisted of cereals, and it is to be regretted that there is an annual increase in this class, since the plains of Thessaly, with intelligent cultivation, would yield enough to supply the entire Kingdom. The lack of capital, the low rate of wages, the opposition to innovations, the absence of railway facilities, make changes in existing conditions unlikely. The following table gives the imports and exports by articles:

---

* 1 drachma = 19.3 cents.

Description.	1896.	1895.
Imports.	*Drachmas.*	*Drachmas.*
Cereals	29,202,491	27,585,915
Woven tissues	22,953,539	20,330,824
Coal and unworked minerals	14,243,839	13,051,678
Woods	5,386,677	4,634,610
Drugs and chemicals	5,331,996	4,667,677
Fish products	4,864,036	4,154,315
Sugar	3,786,451	2,908,811
Skins	3,362,789	2,934,469
Worked metals and ores	3,411,238	3,364,301
Cattle	3,014,855	2,278,734
Coffee	2,413,090	2,286,930
Paper	2,348,327	2,522,006
Rice	1,782,920	2,109,533
Dyes	1,688,588	2,225,576
Pottery and glassware	1,354,145	1,230,744
Prepared skins	966,280	810,794
Principal exports.		
Currants	23,208,178	21,806,609
Ores	14,617,689	18,626,916
Wine	5,437,584	4,475,940
Figs	3,547,075	2,884,140
Olive oil	3,063,269	3,182,784
Tobacco	2,704,096	2,010,939
Acorns	2,412,165	2,346,102
Sponges	1,622,760	1,524,660
Olives	1,131,552	1,301,054
Silk	941,680	803,705
Cognac	951,707	1,272,618
Fruit	544,130	952,061
Honey	438,152	45,300
Soap	437,559	641,989
Cheese	379,381	439,187
Gunpowder	300,029	304,254

The unfortunate condition of the currant market, owing to overproduction, has not improved; indeed, through new customs duties, France and Russia have rendered the import of this article practically impossible. It would be better if more attention were given to the cultivation of olive trees in Greece, and especially to the preparation of olive oil. Grecian wines are gradually winning a place in the market.

Iron Industry in England, Germany, and America.—Reuter's Finanz Chronik, London, March 27, 1897, says:

In spite of the sharp competition on the part of Germany and America, England held the lead in the iron industry during the past year. The production in 1896 amounted to 8,750,000 tons, or more than that of any previous year. The nearest was in 1883, with a production of 8,495,800 tons, and after that 1889, with 8,325,000 tons. Since the production has increased only 254,000 tons within thirteen years, it is obvious that progress is seriously retarded. Only the development of British colonies, and especially the expansion of British interests in South Africa have made it possible for the English iron industry to hold its own against foreign competition. The following table gives the production of pig iron of the three countries for the last five years:

Countries.	1892.	1893.	1894.	1895.	1896.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
United States	9,157,000	7,124,502	6,657,388	9,446,308	8,623,157
England	6,616,890	6,829,841	7,364,745	7,895,675	8,750,000
Germany	4,937,461	4,986,030	5,559,322	5,788,798	6,460,000

The last year was very unfavorable to the United States, owing to the political situation. The steady and sure growth of the German production is noticeable.

Commerce of Paraguay.—The Bollettino del Ministero degli Affari Esteri, Rome, October, 1896, gives the following in a consular report from Paraguay:

The exports for 1894 amounted to 9,039,574.30 lire ($1,744,637.83); the imports exceeded the exports by 2,071,439.50 lire, which would make the total imports amount to $2,144,425. The imports in 1895 were 12,300,250 lire ($2,373,948). The exports for 1895 are not given. The principal export is yerba mate (Paraguay tea); in 1894, it was exported to the value of 5,339,278 lire ($1,030,080). This product is as important in Paraguay (and also in Brazil, Chile, Peru, Bolivia, and the Argentine Republic) as beer in Germany or wine in France. Efforts are being made to export it; it has already been introduced in England, where it is valued as a tonic. Horses and cattle are raised, and tobacco is widely cultivated, although the industrial appliances are crude. There is an increasing export of fine woods and ornamental plants. Paraguay is well adapted to the cultivation of oranges. They grow in great abundance, and the fruit is excellent. They have almost no value in the market, on account of the large production; for a couple of cents, one can buy a dozen.

The Flora of Paraguay.—The Revista Mensual, Asuncion, December 15, 1896, has the following:

The vegetation of Paraguay has a distinctive character. In other parts of South America, European plants can be made to flourish; here it is almost impossible to cultivate them. But Paraguay needs no foreign growth; her own trees and plants exist everywhere in such abundance that the introduction of others would be superfluous. The country has over two thousand varieties of vascular plants alone. The classes most commonly found are the gramineous, the leguminous, and the pulse-producing; the latter are especially found in the dense forests to the east of Villa Rica. Palms of all species abound. The table-lands which divide the Paraguay and Paraná rivers, at their altitude of 250 or 300 meters, have an entirely different flora from that in the environs of Asuncion. Almost none of the plants of Paraguay exist in the Old World. There are great stretches of forest, composed of varied classes of trees; the mimosa, the cisalpine, and the gum-producing are the principal ones. Ebony and other fine woods are not lacking. Coniferous trees are noticeable for their absence. The vines are so numerous and thick that they obstruct the way effectually.

Mexican Commerce in November, 1896.—The Estadistica Fiscal, Mexico, No. 145, 1897, gives the following figures:

Imports and exports for November, 1896, compared with November, 1895, according to countries.

Countries.	1896.		1895.	
	Imports.	Exports.	Imports.	Exports.
Germany	$386,948	$233,651	$455,436	$231,645
Austria	18,013		11,784	20
Belgium	27,807	148,001	17,885	71,361
Brazil	70			
Canada	28		83	
Chile	760			70
Colombia	1,345	1,600	13,622	5,281
Costa Rica		19,190		
Denmark	140		45	
Ecuador	7,256		7,701	
Spain	166,076	53,755	223,147	69,157
United States	2,003,124	7,238,490	1,650,944	7,258,318
France	383,226	125,507	514,111	113,574
Guatemala	4,641	182,790	1,009	113,018
Holland	11,310		14,748	
India	5,802		4,511	
England	558,819	1,508,581	707,235	1,745,246
Cuba	20			
Italy	13,611		13,982	
Japan	2,115		1,090	
Nicaragua		230		
Norway	3,771		11,520	
Peru		320		765
Portugal	3,097		7,596	
Argentine Republic	76			300
Salvador		760	2,751	4,472
Russia	14		6,283	
Senegambia	38		220	
Switzerland	14,698		11,515	
Turkey	15		152	
Venezuela	3,100		3,836	
Zanzibar	130		113	
China	4,033		3,625	

Italian Commerce in 1896 and in January, 1897.—The Statistica del Commercio Speciale, Rome, 1897, gives the following figures relative to imports and exports during the year 1896:

Description.	Imports.		Exports.	
Materials necessary for industries:	*Lire.*		*Lire.*	
Raw	464,340,141	$89,617,647	175,551,766	$33,861,490
Worked	226,178,332	43,652,419	335,165,643	64,686,969
Manufactured articles	229,769,484	35,345,510	220,405,004	42,538,165
Alimentary products	252,778,755	48,786,299	320,754,193	41,905,559
Total	1,173,066,712	226,401,875	1,051,876,606	203,014,184

The same official publication says that during the month of January, 1897, the imports amounted to 75,720,034 lire ($14,613,966), as against 88,265,868 lire ($17,037,422) for the corresponding period of last year. The exports were 74,405,272 lire ($14,360,217), against 68,700,635 lire ($14,259,159) for January, 1896.

French Commerce for January and February, 1897.—The following figures, showing the corresponding periods of 1896 and 1897 (given here in United States currency), are taken from the Exportateur, Paris, March 18, 1897:

Description.	Imports.		Exports.	
	1897.	1896.	1897.	1896.
Alimentary materials	$29,485,154	$36,227,837	$15,147,412	$16,752,839
Raw materials	82,040,947	72,146,102	24,629,888	25,407,871
Manufactured articles	18,237,149	18,833,322	51,602,796	54,869,900
Postal packages	....	....	4,590,312	4,478,372
Total	129,763,250	127,207,261	95,970,408	101,508,982

Savings Banks in France.—The Journal des Débats, Paris, March 19, 1897, gives the report of the Minister of Commerce in regard to the operations of savings banks for the year 1895. On the 31st of December of that year, the number of banks that remained authorized was 544; 457 were under municipal control, and there were 13 branches founded by nine banks during the year, making a total of 1,107. There were 6,286,556 accounts, and the balance to the credit of depositors was $655,323,815.73. The 544 active banks had on deposit on the 1st of January, 1895, 35,824 receipts, representing $334,052.31 revenue belonging to 34,824 depositors. During the year, the banks bought to the amount of $141,840. It will be seen that the number of banks has not increased over 1894. The deposits have increased 169,609 in number, but the receipts have diminished nearly $3,000,000.

Commerce of Crete.—The Exportateur, Paris, March 18, 1897, says a correspondent writes from Candia:

> The commercial movement of the island amounted in 1896 to 267,000,000 piasters,* of which 120,000,000 piasters was in imports and 147,000,000 piasters in exports. Olive oil has been exported to the value of 80,000,000 piasters; soap, 10,000,000 piasters; carob beans, 10,000,000 piasters; wine, 8,000,000 piasters; grapes, 1,500,000 piasters; lemons and oranges, 1,500,000 piasters; almonds, 1,000,000 piasters; skins, 4,000,000 piasters; sponges, 200,000 piasters; cereals, 20,000,000 piasters; cheese, 1,000,000 piasters.

German Commerce in 1896.—The monthly Government publication, Auswärtigen Handel, Berlin, December, 1896, has the following figures:

> During the year 1896, the value of German imports was 4,323,976,000 marks ($1,013,106,288), an increase over the preceding year of some 300,000,000 marks; the exports amounted to 3,403,796,000 marks ($810,103,448), an increase over 1895 of, in round numbers, 200,000,000 marks. The principal articles imported were: Cotton and cotton goods, $69,995,562; drugs and dyes, $58,026,780; earthenware, porcelain, and precious metals, $95,891,772; grain and other agricultural products, $173,411,738; wood and articles thereof, $57,958,734; groceries, wines, etc., $148,811,636; wool and woolen goods, $96,379,102.

The February number of the same publication gives statistics which show that the imports for the first two months of this year exceeded those of the corresponding period in 1896 by some 600,000 tons; the exports for January and February, 1897, were nearly 40,000 tons less than in the first two months of last year. The total imports for January and February, 1897, were 5,445,456 tons; the exports amounted to 4,189,471 tons.

Condition of Tunis in 1896.—The Journal des Débats, Paris, February 20, 1897, has the following communication:

> During the last ten years, 134,000,000 francs ($25,862,000) have been spent in Tunis in public works, 34,000,000 francs ($6,562,000) on ports, 1,500,000 francs ($279,500) on light-houses and buoys, 65,000,000 francs ($12,545,000) on railways, 12,000,000 francs ($2,316,000) on roads, 10,500,000 francs ($2,026,500) on public buildings, 2,500,000 francs ($482,500) on sewers, 1,300,000 francs ($250,900) on aqueducts, etc. Roads to the extent of 1,708 kilometers (1,061.29 miles) have been constructed, and 499 kilometers (303.46 miles) of railway. Of the latter, 315 kilometers are of ordinary gauge and 184 kilometers narrow gauge. The agricultural prospects of the country are promising; 500,000 hectares (in round numbers, 1,200,000 acres) of land are in the hands of the European population.

---

*1 piaster=4.4 cents.

VT 990

Vol. LIV. No. 201.

CONSULAR REPORTS.

LIBRARY,
JUN 23 1897
MASS.

JUNE, 1897.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE FIRST PAGE.]

DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1897.

PUBLICATIONS OF THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

The publications of the Bureau of Statistics, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance of instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883; Cholera in Europe in 1884, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Trade Guilds of Europe, 1885 (a portion of this work was published in CONSULAR REPORTS No. 50, for the month of April, 1885); Emigration and Immigration, 1885–86; Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs of Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

Information relating to special subjects—secured by circulars addressed to consular officers—increased to such an extent that, in 1890, the Department decided to publish such reports in separate form, to be entitled SPECIAL CONSULAR REPORTS.

There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1890).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries.

Vol. 4 (1891).—Port Regulations in Foreign Countries.

Vol. 5 (1891).—Canals and Irrigation in Foreign Countries.

Vol. 6 (1891).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Stave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (1895).—American Lumber in Foreign Markets.

Vol. 12 (1895).—Highways of Commerce.

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, Cotton Textiles in Foreign Countries, Files in Spanish America, Malt and Beer in Spanish America, Streets and Highways in Foreign Countries, Canals and Irrigation, and Fire and Building Regulations are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward mailing labels to be used as free of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly who change their addresses should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Statistics, Department of State, Washington, U. S. A."

CONTENTS.

		Page.
I.—CUSTOMS TARIFF OF RUSSIA	Karel	169
II.—SIBERIAN RAILWAY PROGRESS IN 1896		175
III.—THE TRANSSIBERIAN ROUTE TO THE EAST	*Moore*	177
IV.—CATTLE PLAGUE IN RUSSIA	*Karel*	179
V.—MEASURES TO EXCLUDE THE INDIAN PLAGUE FROM RUSSIA.		180
VI.—GOVERNMENT LIQUOR MONOPOLY IN RUSSIA		181
VII.—MINT REGULATIONS AT ST. PETERSBURG		184
VIII.—PETROLEUM TRADE OF RUSSIA	*Chambers*	185
IX.—TRADE OF VALENCIA	*Mertens*	197
X.—CANNED TOMATOES IN BELFAST	*Taney*	198
XI.—RECENT INCREASE OF EXPORTS FROM BELFAST		199
XII.—STREET SPRINKLING WITH DISINFECTANTS	*Roosevelt*	200 201
XIII.—BRIMSTONE IN SICILY	*Caughy*	201
XIV.—EXPORTATION OF SULPHUR FROM ITALY	*Brühl*	204
XV.—SICILIAN FRUIT INDUSTRY	*Brühl* *Seymour* *Brühl*	205 209 210
XVI.—BICYCLE TRADE IN ITALY	*Brühl*	212
XVII.—NEW ADULTERANT FOR ESSENTIAL OILS	*Caughy*	213
XVIII.—STEAMERS FROM VENICE TO EASTERN AFRICA	*Johnson*	214
XIX.—AMERICAN DRUG PREPARATIONS IN FRANCE	*Griffin*	215
XX.—SWISS WATCHES FOR THE UNITED STATES	*Ridgely*	217
XXI.—PROFESSOR KOCH'S NEW TUBERCULINE	*D. B. Mason*	219
XXII.—WHEAT AND RICE IN INDIA	*Comfort*	225
XXIII.—OPENING TO TRADE OF THE WEST RIVER, CHINA	*Denby*	229
XXIV.—TRADE AT THE NEW TREATY PORTS OF CHINA	*Jernigan*	231
XXV.—AMERICAN COTTON AT SHANGHAI		236
XXVI.—INDUSTRIAL ENTERPRISES IN TONGSHAN	*Read*	237
XXVII.—DEMAND FOR FIRE ENGINES IN TIENTSIN		238
XXVIII.—THE IMPERIAL BANK OF CHINA	*Denby*	238 240
XXIX.—THE CHINESE POSTAL SERVICE	*Jones*	244
XXX.—IRON MINES IN CHINA	*Denby*	249
XXXI.—THE GOLD STANDARD IN JAPAN	*McIvor*	252
XXXII.—TEXT OF THE JAPANESE COINAGE BILL		259

Page.

XXXIII.—JAPANESE TRADE CONDITIONS..*Moore* 261

XXXIV.—FOREIGN COMMERCE OF JAPAN..*Connelly* 263

XXXV.—DUTY ON LARD IN NICARAGUA..*O'Hara* 267

XXXVI.—REDUCTION OF DUTIES ON BICYCLES IN NICARAGUA... } *Wiesike* 268

XXXVII.—CARBOLINEUM IN NICARAGUA.. } *Wiesike* 269

XXXVIII.—GOODS SOLD ON COMMISSION IN NICARAGUA..*O'Hara* 269

XXXIX.—PROPOSALS FOR GOVERNMENT CONTRACTS IN THE ARGENTINE REPUBLIC..*Buchanan* 270

XL.—TARIFF OF BRITISH GUIANA..*Patterson* 272

XLI.—EXPORT DUTY ON COFFEE IN COLOMBIA..*Bidlake* 281

XLII.—AGRICULTURAL CONDITIONS IN HONDURAS.. 282

XLIII.—PUERTO CORTEZ CLOSED TO COMMERCE..*Coxe* 283

XLIV.—THE FEDERAL MOVEMENT IN AUSTRALIA..*Bell* 284

XLV.—TRADE BETWEEN THE UNITED STATES AND AUSTRALIA.. } *Maratta* 295

XLVI.—THE BICYCLE TRADE OF VICTORIA.. } *Maratta* 297

XLVII.—RUBBER TRADE OF MADAGASCAR..*Wetter* 301

XLVIII.—THE BEET-SUGAR CRISIS IN EUROPE..*Morris* 304

XLIX.—EFFECT OF THE GERMAN SUGAR LAW..*Muth* 309

L.—SUGAR-BEET PLANTING IN GERMANY..*F. H. Mason* 310

LI.—SUEZ CANAL TRAFFIC IN 1896..*Penfield* 311

LII.—TRADE RELATIONS BETWEEN BASSORAH AND THE UNITED STATES.. { *Hürner* 312 / *Hamilton* 313

LIII.—EXPORTS FROM SOUTH GERMANY TO THE UNITED STATES, *F. H. Mason*.. 315

LIV.—THE STAVE INDUSTRY IN CANADA..*Bishop* 316

LV.—CURRANT CROP OF GREECE..*Jenkins* 317

LVI.—NOTES (Proposed Electric Street Railways in Ghent—Railroad Enterprise in Venezuela—Work on the Seoul-Chemulpo Railroad—An American at the Hanyang Iron Works—A New Vegetable—Prevention of Hailstorms by Means of Explosions—The World's Aluminium Output—Swedish Regulations as to Imported Meat—A Substitute for Coffee—American Apples in Germany—German Emigration Statistics—Germany's Success in Brazil—Germany's Commercial Travelers—Scales in Germany—Report of the North German Lloyd Steamship Company—Mortality in Demerara—Need of a Commercial Agency in Mexico—Banana Cultivation in Santo Domingo—Nobel Prizes for Scientific Discoveries—French Machinery on the Panama Canal—Consular Reports Transmitted to Other Departments—Navigation on Rainy River—Street Railways in Dusseldorf).. 319

Page.

LVII.—FOREIGN REPORTS AND PUBLICATIONS (French Commerce in 1896—Foreign Commerce of Switzerland in 1896—Special Commerce of Norway in 1896—Commerce of Hungary in 1896—Commerce of Servia in 1895—Foreign Commerce of Roumania in 1895—Development of Cotton Spinning in Germany—Beer in Germany—International Exposition at Glasgow in 1901—Public Sale of Wool in Antwerp—Dairy Products of English Colonies—Construction of a Railway in Peru—Demand for Machinery in Brazil—Commerce of Costa Rica in 1895—Railroad in Angola—Commerce of Mauritius in 1895—Industrial and Agricultural Condition of Madagascar—Mahogany on the Ivory Coast—The Cotton Season in Egypt—Industrial Exposition at Calcutta—Australian Mother-of-Pearl Industry—Trade Methods in South America—Removal of Duty on Windmills in Venezuela).. 334

REPORTS BY COUNTRIES.

ARGENTINE REPUBLIC: Page.

Proposals for government contracts in 270

ASIATIC TURKEY:

Trade relations between Bassorah and the United States 312

AUSTRALIA:

The bicycle trade of Victoria 297
The federal movement in 284
Trade between the United States and 295

BELGIUM:

Proposed electric street railways in Ghent 319
Street sprinkling with disinfectants in Brussels 200, 201

BRITISH GUIANA:

Mortality in Demerara 328
Tariff of 272

CANADA:

Navigation improvements on Rainy River 332
The stave industry in 316

CHINA:

American cotton at Shanghai 236
An American at the Hanyang iron works 320
Demand for fire engines in Tientsin 238
Industrial enterprises in Tongshan 237
Iron mines in 249
Opening the West River to trade 229
Postal service of 244
The imperial bank of 238, 240
Trade at the new treaty ports of 231

COLOMBIA:

Export duty on coffee in 282
French machinery on the Panama Canal 331

EGYPT:

Suez Canal traffic in 1896 311

EUROPE:

The beet-sugar crisis in 304

FRANCE:

American drug preparations in 215

GERMANY:

A substitute for coffee in 324
American apples in 324
Commercial travelers of 320
Effect of the German sugar law 309
Emigration statistics of 325
Exports from, to United States 315
Professor Koch's new tuberculine 219
Report of the North German Lloyd Steamship Company 327

GERMANY—Continued. Page.

Scales in 326
Street railways in Dusseldorf 333
Success of, in Brazil 326
Sugar-beet planting in 310

GREECE:

Currant crop of 317

GUATEMALA:

Puerto Cortez closed to commerce 283

HONDURAS:

Agricultural conditions in 282

INDIA:

Wheat and rice in 225

IRELAND:

Canned tomatoes in Belfast 198
Recent increase of exports from Belfast 199

ITALY:

Bicycle trade in 212
Brimstone in Sicily 201
Exportation of sulphur from 204
New adulterant for essential oils in 213
Sicilian fruit industry 205, 209, 210
Steamers from Venice to eastern Africa 214

JAPAN:

Foreign commerce of 263
Gold standard in 252
Text of the coinage bill of 259
Trade conditions in 261

KOREA:

Work on the Seoul-Chemulpo railroad 320

MADAGASCAR:

Rubber trade of 301

MEXICO:

Need of a commercial agency in 329

NICARAGUA:

Carbolineum in 269
Duty on lard in 267
Goods sold on commission in 269
Reduction of duties on bicycles in 268

RUSSIA:

Cattle plague in 179
Customs tariff of 169
Government liquor monopoly in 181
Measures to exclude the Indian plague from 180
Mint regulations at St. Petersburg 184
Petroleum trade of 185
The transsiberian route to the East 177

SANTO DOMINGO:

Banana cultivation in 329

SIBERIA:

Railway progress in 1896 175

SPAIN: Page.
Trade of Valencia 197
SWEDEN:
Nobel prizes for scientific discoveries 330
Regulations as to imported meat 323
SWITZERLAND:
A new vegetable in 320
Prevention of hailstorms by means of explosions 321
The world's aluminium output 322
Watches for the United States 217
VENEZUELA:
Railroad enterprise in 320

Full directions for binding the Consular Reports are given in No. 131, page 663.

JUN 23 1897

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1897, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.4 cents in April, 1897, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz, (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic[*].	Gold and silver..	Peso..................	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary[†].....	Gold	Crown...............	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver..	Franc................	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil.......................	Gold	Milreis..............	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	........do	Dollar................	1.00	
Chile........................	Gold	Peso..................	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Cuba	Gold and silver..	........do	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark..................	Gold	Crown...............	.26,8	Gold—10 and 20 crowns.
Egypt.......................	........do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland.....................	........do	Mark..................	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc................	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany..................	Gold	Mark..................	.23,8	Gold—5, 10, and 20 marks.
Great Britain............	........do	Pound sterling...	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece......................	Gold and silver..	Drachma...........	.19,3	Gold—5, 10, 20, 50, and 100 drachmas: silver—5 drachmas.
Haiti	........do	Gourde..............	.96,5	Silver—gourde.
Italy..........................	........do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar................	1.00	
Netherlands[‡]............	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar................	1.01,4	Gold—$2 ($2.02,7).
Portugal....................	........do	Milreis..............	1.08	Gold—1, 2, 5, and 10 milreis.
Spain........................	Gold and silver..	Peseta...............	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown...............	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc................	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster...............	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela.................	Gold and silver..	Bolivar..............	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

---

[*] In 1874 and 1875, the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

[†] On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ended July 1, 1892. The next quarter (October 1) inaugurated the gold standard (see note under table of "fluctuating currencies").

[‡] The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–1890.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1890; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	....	....
China	Silver	Haikwan tael	1.61	1.61	....	....	....	....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	....	....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	....	....
	Silver		....	....	....	....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.38,5	.40,2	....	....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on Janury 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	....	....	....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.94,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	....	....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

---

*The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

†The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1894.				1895.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.51,6	$0.46,5	$0.45,7	$0.46,4	$0.45,5	$0.44,1	$0.48,6	$0.48,6
Central America.	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
China*	Shanghai tael	.76,2	.68,6	.67,6	.68,5	.67,3	.65,2	.71,8	.71,8
	Haikwan tael	.84,9	.76,5	.75,3	.76,3	.74,9	.75,6	.80	.80
	Tientsin tael	....	....	....	.72,7	.71,4	.69,2	.76,1	.76,2
	Chefoo tael	....	....	....	.71,7	.70,4	.68,3	.75,1	.75,2
Colombia	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Ecuador	do	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
India	Silver rupee	.24,5	.22,1	.21,7	.22	.21,6	.21	.23,1	.23,1
Japan†	Silver yen	.55,6	.50,1	.49,3	.50	.49,1	.47,6	.52,4	.52,4
Mexico	Silver dollar	.56	.50,5	.49,7	.50,4	.49,5	.47,9	.52,8	.52,8
Persia	Silver kran	....	....	....	....	....	....	.08,9	.09
Peru	Silver sol	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Russia‡	Silver ruble	.41,3	.37,2	.36,6	.37,1	.36,4	.35,3	.38,9	.38,9
Tripoli	Silver mahbub	.46,5	.41,9	.41,3	.41,8	.41,1	.39,8	.43,8	.43,8

Countries.	Monetary unit.	1896.				1897.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano.	$0.49,1	$0.49,3	$0.49,7	$0.49	$0.47,4	$0.46,8
Central America	Silver peso	.49,1	.49,3	.49,7	.49	.47,4	.46,5
China*	Amoy tael	....	....	....	.79,3	.76,7	.75,7
	Canton tael	....	....	....	.79	.76,5	.75,5
	Chefoo tael	.75,9	.76,3	.76,9	.75,8	.73,3	.72,4
	Chinkiang tael	....	....	....	.77,4	.74,9	.73,9
	Fuchau tael	....	....	....	.73,3	.70,9	.70
	Haikwan tael	.80,8	.81,2	.81,9	.80,6	.76	.77
	Hankow tael	....	....	....	.74,2	.71,7	.70,8
	Ningpo tael	....	....	....	.76,2	.73,7	.72,8
	Niuchwang tael	....	....	....	.74,3	.71,9	.71
	Shanghai tael	.72,5	.72,9	.73,5	.72,4	.70	.69,1
	Swatow tael	....	....	....	.73,2	.70,8	.69,9
	Takao tael	....	....	....	.79,8	.77,2	.76,2
	Tientsin tael	.76,9	.77,3	.78	.76,8	.74,3	.73,4
Colombia	Silver peso	.49,1	.49,3	.49,7	.49	.47,4	.46,8
Ecuador	do	.49,1	.49,3	.49,7	.49	.47,4	.46,8
India	Silver rupee	.23,3	.23,4	.23,6	.23,3	.22,5	.22,2
Japan†	Silver yen	.52,9	.53,2	.53,2	.52,8	.51,1	.50,5
Mexico	Silver dollar	.53,3	.53,6	.54	.53,2	.51,5	.50,8
Persia	Silver kran	.09	.09,1	.09,2	.09	.08,7	.08,6
Peru	Silver sol	.49,1	.49,3	.49,7	.49	.47,4	.46,8
Russia‡	Silver ruble	.39,3	.39,5	.39,8	.39,2	.37,9	.37,4
Tripoli	Silver mahbub	.44,3	.44,5	.44,9	.44,2	....	....

---

*China (silver). The haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or haikwan, tael, in which all duties have to be paid, and the other the market tael." The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

†Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1¾ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82 2/7 pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castile	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.418 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LIV. JUNE, 1897. No. 201.

CUSTOMS TARIFF OF RUSSIA.

For the information of our manufacturers and exporters, I give the duties imposed by Russia upon some of the principal articles exported from the United States to this country. The custom-houses in Russia are classified, according to the powers conferred on them relative to the importation of goods and the collection of duties, as follows: Principal customs warehouses; custom-houses of the first, second, and third classes; toll houses; and posts situated on frontier passes. The principal customs warehouses are authorized to sanction the entry of all kinds of foreign goods (except those prohibited), for clearance or for shipment in transit. Goods may be stored in customs warehouses for a period not exceeding three years before the payment of the duties thereon or before their reshipment to a foreign country. Principal customs warehouses are established at Batum, Irkoutsk, Kharkov, Libau, Moscow, Odessa, Revel, Riga, St. Petersburg, Taganrog, Tiflis, and Warsaw. In the custom-houses of the first class, the import duties must be paid within one year from the date of the entry of the goods. Import duties on foreign goods which are allowed to be cleared by custom-houses of the second class must be paid within two months from the date of entry. Those goods referred to are tea, wine, alcoholic beverages, sugar (raw and crushed, in loaves and lumps), colors, pharmaceutical products, articles of gold and silver (which must be stamped at the assayer's office), smoking tobacco, snuff, and cigars. The custom-houses of the third class have the same powers as those of the second, except as regards the importation of machines other than agricultural. The import duties in these custom-houses must be paid within a month. Toll houses can clear only goods exempt from duty, with the exception of machines and apparatus, cereals and flour, and wines proceeding from Austria-Hungary. Customs posts situated on frontier passes are not open for the importation of foreign goods. All duties are collected in gold. One gold ruble has 100 copecks, and equals 77.2 cents (United States).

The following is a table of customs duties:

Kinds of goods.	Unit.	Rate.	
Rice:		*Rubles.*	
Husked	Per pood*	0.70	$0.54
Unhusked	do	.40	.3088
Nuts (wood and garden nuts of all kinds excepting those specially mentioned).	do	1.00	.772
Tobacco:			
In leaves, bundles, with or without stalks, and tobacco stalks.	do	15.40	11.888
Cut smoking tobacco, snuff, and tobacco of all kinds in rolls, cakes, etc.	Per funt†	1.30	1.00⅓
Cigars, rolled from leaf, and cigarettes	do	3.20	2.47
Fruit and berries (fresh, salted, steeped, etc., of all kinds except those specially mentioned).	Per pood, gross.	1.20	.9264
Meat (salted, smoked, or dried, and sausages)	Per pood	1.00	.772
(All comestibles manufactured from the meat of swine are prohibited.)			
Cheese	do	5.40	4.1588
Hides, dressed:			
(1) Small—tanned, tawed, curried, or saturated with alum, chamois leather, calfskins, fishskins and skins of amphibious animals, and small tanned thongs for lacing the ends of machine belting.	Per pood	11.00	8.492
(2) Morocco leather, glazed leather, kid and shagreen; all kinds of leather with impressed ornaments, and lacquered leather, small.	do	12.75	9.843
(3) Large—ox, cow, horse, or pig skins, tanned, saturated with alum, or tawed, in whole or half skins; parchment.	do	6.00	4.632
(4) Lacquered skins, large	do	7.22	5.5738
Manufactures of leather or skins:			
(1) Boots and shoes of all kinds (except those specially mentioned), finished or not.	Per funt	1.00	.772
NOTE.—Leather or skins of all kinds, cut out for boots or shoes or small wares.			
(2) Boots and shoes for women, of kid, finished or not	do	1.70	1.3124
(3) Gloves of any kind of leather	do	2.55	1.9686
NOTE.—Gloves cut out, but not sewn, pay duty at 1.50 rubles ($1.058) per funt.			
(4) Harness, with accessories; saddlers' work; riding whips made of small leather thongs.	do	.55	.4246
(5) Valises, trunks, traveling bags and sporting articles made of leather and of coarse tissue of hemp or jute; note and pocket books of leather; prepared leather for binding; all other articles of leather which are not specially mentioned, even with metallic parts or with parts of other materials, when not constituting fancy articles of leather.	do	.70	.54
(6) Transmission belts for machinery, sewn or not; straps for weaving looms; small round transmission belts, whips, buckets, and other coarse leather ware.	do	.20	.1544

* 1 pood=36.112 pounds.

† 1 funt=0.90282 pound.

Table of customs duties—Continued.

Kinds of goods.	Unit.	Rate.	
Cast iron in pigs, scrap, and filings:			
(1) Of all kinds, with the exception of those specially mentioned—		*Rubles.*	
(*a*) Imported by sea	Per pood	0.30	$0.2316
(*b*) Imported over the western land frontier	do	.35	.27
(2) Manganese, silicium, and chrome	do	.50	.386
Wrought iron:			
(1) In bars, horseshoe iron of all kinds, except that mentioned below; pigs, puddled blooms, scrap, and mill bars; iron in powder.	do	.60	.4632
(2) Iron rails, perforated or grooved	do	.60	.4632
(3) Sheet iron of all kinds up to No. 25, inclusive (Birmingham gauge); in plates exceeding 18 inches in width; horseshoe iron of all kinds of a width or height exceeding 18 inches, and of thickness or diameter of 7 inches or more (T, TT iron, beams, and Z iron, figured iron, with the exception of angle iron entering in section 1 of the present number); hoop iron of a width or diameter of more than one-fourth to one-half of an inch, inclusive.	do	.85	.6562
(4) Sheet iron above No. 25	do	1.00	.772
Steel:			
(1) In bars and horseshoe steel of all kinds, except that mentioned below; steel in pigs and in scrap.	do	.60	.4632
(2) Steel rails, even perforated or grooved	do	.60	.4632
(3) Sheet steel of all kinds, up to No. 25, inclusive; in plates exceeding 18 inches in width; horseshoe steel of all kinds of a width or height exceeding 18 inches and of a thickness or diameter of 7 inches or more (T, TT steel, beams, and Z steel, figured steel, with the exception of the angle steel entering in section 1); hoop steel of a width or diameter of more than one-fourth to one-half of an inch, inclusive.	do	.85	.6562
(4) Sheet steel above No. 25	do	1.00	.772
NOTE.—Steel of a width or diameter of one-fourth of an inch or less pays duty of 1 ruble (77.2 cents) per pood.			
Lead:			
(1) In pigs and scrap; litharge, white litharge, scoriæ, or dross of lead.	do	.10	.0772
(2) In rolls, sheets, wire, and piping	do	.30	.2316
(3) Type metal (alloy of lead and antimony), unwrought	do	.20	.1544
Cast-iron wares:			
(1) Castings, rough	do	.68	.525
(2) Vessels of cast iron, enameled	do	1.00	.0772
(3) Cast-iron wares, filed, polished, turned, painted, bronzed, tinned, varnished, enameled (except vessels), coated with zinc or other common metals, even combined with wood, copper, or its alloys.	do	1.53	1.1812
NOTE.—Section 3 of the present section applies to all articles in malleable cast iron, rough, as well as those worked, if the latter weigh more than 5 funts each; worked articles of malleable cast iron weighing 5 funts or less each pay duty of 2.70 rubles ($2.0844) per pood.			
Manufactures of iron and steel, forged, stamped, or cast, not filed, or filed on the sides and edges only, but not otherwise wrought, except those specially mentioned; forged nails.	do	1.70	1.3124
Iron and steel boiler work, such as boilers, reservoirs, tanks, cases, bridges, pipes, as well as all articles of sheet iron or steel, with the exception of those specially mentioned.	do	1.70	1.3124

Table of customs duties—Continued.

Kinds of goods.	Unit.	Rate.	
Manufactures of iron and steel not specially mentioned, shaped, turned, polished, cut, bronzed, or otherwise worked, combined or not with wood, copper, or its alloys, weighing:		*Rubles.*	
(1) More than 5 funts each	Per pood	1.70	$1.3124
(2) 5 funts or less each	do	2.70	2.0844
(3) Padlocks and other locks, except those of brass; also wood screws.	do	4.00	3.088
Wire:			
(1) Of iron or steel—			
(*a*) Of a thickness or diameter of from one-fourth of an inch up to No. 25, inclusive (Birmingham gauge).	do	1.00	.772
(*b*) Exceeding No. 25 and up to No. 29, inclusive	do	1.50	1.058
(*c*) Finer than No. 29	do	2.00	1.544
(2) Of copper or alloys of copper, or of all kinds of alloys of common metals—			
(*a*) Of a thickness or diameter of from one-fourth of an inch up to No. 25, inclusive; telegraph wires of all kinds.	do	4.00	3.088
(*b*) Exceeding No. 25 up to No. 29, inclusive	do	5.00	3.86
(*c*) Finer than No. 29	do	6.00	4.632
NOTE.—Wire coated with tin, zinc, or other common metals pays duty according to the corresponding sections of the present section, with an addition of 50 per cent.			
Manufactures of wire:			
(1) Of iron or steel—			
(*a*) Of all kinds, except those specially mentioned	do	3.20	2.47
(*b*) Fillets of cards and cards of all kinds	do	3.52	2.7174
(2) Of copper or its alloys—			
(*a*) Of all kinds, except those specially mentioned	do	6.00	4.632
(*b*) Wire gauge, containing in the length of 1 inch 24 threads and more; wire covered with textile materials or with gutta-percha.	do	9.00	6.948
NOTE.—Wire covered with silk, even if mixed with other textile materials, pays 20 per cent in addition to the duty stipulated in section 2 (*b*).			
(3) Wire nails, shoemaker's nails, upholsterer's nails, horseshoe nails, nails of malleable cast iron, and rivets; pegs for pianos.	do	2.43	1.8759
Needles of iron and steel:			
(1) Sewing, and all other needles, except those mentioned below.	Per funt	.65	.5018
(2) Knitting, packing, saddlers', harness makers' and sailmakers' needles; bodkins.	do	.30	.2316
Cutlery:			
(1) Of all kinds, set in common materials; shears (with the exception of sheep shears); tweezers, knife blades, and forks without handles, finished or not.	Per pood	16.00	12.352
(2) The same wares set in gilt, silvered, plated, or in other metallic compositions, in tortoise shell, mother-of-pearl, ivory, fossil ivory; also set in common materials with ornaments of the above-mentioned materials, including gold and silver.	do	32.00	24.704
(3) Peasants' pocket knives (kosiki) set in common metals or other cheap materials.	do	6.60	5.0952
Side arms, sword blades of all kinds; portable firearms, with the exception of those prohibited; accessories of all kinds for firearms; cartridge cases; cartridges and caps, loaded or not.	do	24.00	18.528
NOTE.—Firearms imported in boxes or cases with their accessories are dutiable with the weight of such cases and accessories.			

Table of customs duties—Continued.

Kinds of goods.	Unit.	Rate.	
		Rubles.	
Scythes, sickles, chaff cutters, bills, sheep shears, spades, shovels, rakes, hoes, and forks.	Per pood......	1.19	$0.9187
Tools for artisans and artists......................	........do	1.19	.9187
Machinery, apparatus, and models thereof, complete or in parts, adjusted or not:			
(1) Of all kinds, of copper or alloys of copper, as well as machinery and apparatus in which copper predominates in weight; dynamo electric machines of all kinds.	........do	4.80	3.7056
(2) Gas and water meters; motors worked by gas, hot air, or petroleum; dynamos, sewing and knitting machines, portable engines (with the exception of those mentioned in section 5), tenders, fire engines (excepting those mentioned in section 3); machines of all kinds not specially mentioned of cast iron, iron, or of steel, with or without parts of other materials.	........do	1.53	1.1812
(3) Railway locomotives and traction engines, locomotive wagons (wagons-locomotives) steam wagonettes (wagonettes à vapeur), steam fire engines.	........do	2.00	1.544
(4) Agricultural machinery and apparatus not provided with steam motors, and not specially mentioned, also models thereof.	........do	.52	.4014
(5) Portable engines with thrashers of a complicated system...	........do	1.40	1.0808
NOTE.—Parts of machines and apparatus imported separately are subject to the following duties: (*a*) Those of copper or alloys of copper, 4.80 rubles ($3.7056) per pood; (*b*) those of cast iron, iron, or steel, 1.70 rubles ($1.31) per pood.			
Scales and accessories thereof; parts of scales, excepting those of copper or alloys of copper:			
(1) For the first 3 poods of each piece..................	........do	4.00	3.088
(2) For each additional pood..................	........do	1.70	1.3124
NOTE.—Scales for pharmacies and laboratories pay duty of 6.80 rubles ($5.2496) per pood.			
Clocks and watches:			
(1) Movements—			
(*a*) Of watches, imported without cases, or separately from the cases.	Complete set.	1.00	.772
(*b*) Of clocks of all kinds, imported without cases or separately from the cases.	........do	*1.00	.772
NOTE I.—Clocks, the works of which can not be separated from the cases without the aid of instruments, pay duty according to the material of the case, in addition to a duty of 2.50 rubles ($1.93) per movement.			
NOTE II.—Cases or cages imported without movements are dutiable according to their component materials.			
(2) Watches, with gold cases, with gilt parts, or with gold ornaments.	Each...........	2.50	1.93
(3) Watches, with cases of all kinds, other than those mentioned in section 2.	........do	1.00	.772
(4) Clocks, wooden, with movements of copper or wood.........	........do	.40	.3088
(5) Tower clocks..................	........do	25.00	19.30
(6) Fittings of all kinds for clocks and watches..................	Per funt......	.75	.579
Musical instruments:			
(1) Pianos (grand); organs of all kinds, not portable..............	Each...........	132.00	101.904
(2) Pianos (upright)..................	........do	64.00	49.408
(3) Portable organs, harmonicas, and harps..................	........do	15.00	11.58

* In addition, 75 copecks (59.9 cents) per funt.

Table of customs duties—Continued.

Kinds of goods.	Unit.	Rate.	
Musical instruments—Continued.		*Rubles.*	
(4) Musical instruments of all kinds not specially mentioned; accessories and detached parts of musical instruments, imported separately, such as bows, gut or silk strings, keyboards, piano hammers, metronomes, tuning forks, etc.	Per funt......	0.16	$0.1235
NOTE.—Musical instruments pay duty together with the weight of their boxes and cases.			
Vehicles:			
(1) Carriages:			
(*a*) Large, such as coaches, calashes for 4 persons, landaus, diligences, and omnibuses.	Each............	132.00	101.904
(*b*) Light, such as calashes for 2 persons, phaëtons, droskies, chars-à-bancs, cabriolets, cabs, etc.	........do	90.00	69.48
(2) Vans and carts	........do	40.00	30.88
(3) Carts, common, for farmers, and other similar carts for the conveyance of freight or passengers; perambulators, bath chairs, and velocipedes.	........do	12.00	9.264
(4) Detached parts of carriages, such as bodies, wheels, lamps, etc., with the exception of springs, axles, and other accessories specially mentioned in the tariff.	Per pood......	8.00	6.176
NOTE.—Carriages, upholstered, completely finished, pay 20 per cent in addition to the duties stipulated above.			
Railway carriages:			
(1) Coal trucks and trolleys	Per axle......	160.00	123.52
(2) Freight and tank wagons	........do	240.00	185.28
Passenger carriages—			
(3) Third class, also luggage and mail vans	........do	300.00	231.60
(4) Third and second class (combination)	........do	330.00	254.76
(5) Second class	........do	355.00	274.06
(6) First and second class (combination)	........do	410.00	316.52
(7) First class	........do	465.00	358.98
Tramway carriages—			
(8) For two horses	Each............	340.00	262.48
(9) For one horse	........do	250.00	193.00
Cotton, raw	Per pood......	2.10	1.6212
Cotton yarns and thread:			
(1) Numbers below No. 38, English—			
(*a*) Unbleached	........do	4.80	3.7056
(*b*) Bleached and dyed (except turkey red)	........do	6.00	4.632
(*c*) Dyed, turkey red	........do	6.30	4.8636
(2) From No. 38 to No. 50, English, exclusive—			
(*a*) Unbleached	........do	6.00	4.632
(*b*) Bleached and dyed	........do	7.10	5.4812
(3) From No. 50, English—			
(*a*) Unbleached	........do	8.50	6.562
(*b*) Bleached and dyed	........do	9.60	7.4112
(4) Twisted yarns and thread—			
(*a*) Sewing thread on wooden bobbins, prepared for retail sale.	Per pood, gross.	9.00	6.948
(*b*) Twisted yarn of two or more threads, of all kinds, except sewing thread on wooden bobbins, prepared for retail sale.	........do	11.00	8.492
NOTE.—Cables and ropes of spun cotton pay 5.70 rubles ($4.4004) per pood.			

PROHIBITED GOODS.

Small Russian copper and silver money and all foreign copper and silver money of low standard.

Gunpowder, compositions for gunpowder, and fulminating compositions.

Note.—Gunpowder and explosive materials, which can only be imported by special permission of the Minister of Finance, pay the following customs duties: (*a*) Gunpowder, 1.40 rubles ($1.0808) per pood, gross; (*b*) dynamite and all explosive materials and fulminating compositions, as well as all accessories employed in producing explosives, such as slow matches, caps, and other similar articles not specially mentioned, 3 rubles ($2.316) per pood, gross.

Munitions of war, cannon, mortars, bullets, shells, etc.

Air guns, sword sticks, pipestems with daggers, and all other concealed weapons.

Playing cards of all kinds.

Berries of the *Cocculus indicus.*

Margarin in any shape.

Artificial saffron.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *April 1, 1897.*

SIBERIAN RAILWAY PROGRESS IN 1896.

The committee which manages the construction of the Great Siberian Railway has reported to the Czar the work done on said road during the year 1896. The committee says that ninety different matters were examined in 1896, twenty-two more than in 1895. The duty of the committee consisted in examining the constructive works, prepared according to previous plans, and taking measures for their prompt execution.

Reports were periodically presented to the committee concerning the state of the railway work, including the work done by convicts and criminals deported to Siberia. The committee found it practicable during the year to fix the definite cost of the construction of the Northern Ussuri line at 21,709,930 rubles ($11,158,904), the second section of the Central Siberian line at 50,197,977 rubles ($25,801,760), and the branch line to the city of Tomsk at 1,830,765 rubles ($941,013). The cost of the rolling stock of the Transbaikal road was determined at 6,643,395 rubles ($3,414,705) and that of the Perm-Kottlass road at 3,496,095 rubles ($1,796,993). The estimates for the construction of the two last-named lines were not ready to be submitted to the committee, owing to the difficulties in finding a course combining economy and ease of construction. The latter was finally obtained and approved only at the end of the year. The said road will run, with little variation, through the valley of the River Cheptsy toward the town Glazov, and the committee has recommended that the work be continued in the most economical method. In order not to interrupt the course of construction of the

Transbaikal and the Perm-Kottlass lines, the committee decided to grant sufficient means to continue the work during the summer of 1896 on the sections of the above-named lines on which there were to be no changes.

Among the measures adopted by the committee during the year to insure the successful construction of the Siberian Railway, the exploration of the rivers Shilka and Ussuri, and the permission to clean the channel of these rivers and also of the River Amur deserve special mention. These measures will not only directly facilitate the construction of the railway, but will also, generally speaking, help to develop regular steamship communication on the waters of eastern Siberia.

In order to promptly supply the road with working material, a special commission was founded, whose duty it was to secure, without detriment to private business, the fleet now circulating in the basin of the River Amur. The same was employed for conveying these materials to the road; it was further found necessary to seek the aid of several Government boats in the fulfillment of the obligations undertaken by private steamship companies pertaining to the transport of railway cargoes.

Other measures are as follows: To make available the supplementary appropriation for the improvement of the navigable condition of the River Angara, undertaken in 1894, and to carry on an experimental transport of railway cargoes on said river during the summer of 1896; and also to conclude a contract with the new proprietor of the Nikolaevsk works for 4,750,000 poods (85,766 tons) of various materials for the construction and exploitation of the Siberian Railway.

The committee, wishing to build the terminus of the Siberian Railway on the Pacific Ocean in a suitable manner, since this point will play a significant part in future transit over the great road, has chosen the bay of Gold Horn for the establishment of a commercial port. The committee has selected and prepared a prominent strip near the shore for an elevated harbor wharf, thinking that in case future commerce should develop to a great extent, the requirements could be satisfied by constructing a supplementary section of the port in some of the waters near Vladivostok. It has been decided to build the port gradually, according to the development of commercial requirements, and in a way to protect at the same time the interests of the Russian war fleet (with all possible additions thereto), which will have, as heretofore, anchorage in the bay of Gold Horn.

The Russo-Chinese Bank, established a year ago for the purpose of developing commercial relations between Russia and China, obtained, in 1896, from the Chinese Government a permit for the construction of a railway line through Manchuria, and a special stock company was organized for that purpose. When this great enterprise is realized, the necessity of constructing the Amur section, which presents such technical difficulties, will disappear, and it will be only necessary to build a branch line about 530 versts (351 miles) in length from the Transbaikal and Ussuri lines to the Chinese border, and thus the distance for the transit of goods will be approximately shortened 514 versts (341 miles).

During the year 1896, the committee found it necessary to increase the number of employees and the appropriation for the administration of the Siberian Railway, so that the steadily increasing work could be properly executed. The Ekaterinburg and Cheliabinsk division, a branch line of the Western Siberian Railway, is completed, and the exploitation of the same has shown that in the near future it will be necessary to increase its transport facilities, since the requirements already exceed all expectations.

The South Ussuri line, completed in 1895, was considerably damaged by heavy rains last summer, and requires much repairing. The Central Siberian line from the River Obi to the town of Krasnojarsk and the branch to the town of Tomsk are nearly completed. On the section from Krasnojarsk to Irkutsk, rails have been laid 25 per cent of the distance; on the Northern Ussuri line, 69 per cent; on the Perm-Kottlass line, 4 per cent; and on the Transbaikal, 8 versts (5⅓ miles). Thus the whole length of rails already laid, excluding stations and side tracks, amounts to 3,412 versts (2,262 miles).

The principal work accomplished in 1896 was the making of the roadbed, of which 2,464,200 cubic sageni (31,305,197 cubic yards) have been worked, and the ballasting of more than 1,324 versts (878 miles) in length of the railway. Besides the work on the railway, work was commenced for establishing a steam passage over Lake Baikal, which is expected to be ready in 1898, *i. e.*, when the Siberian Railway will probably be completed from Krasnojarsk to Irkutsk. For the construction of all the above lines of the Siberian Railway 73,998,810 rubles ($38,045,388) have been appropriated.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *February 20, 1897.*

THE TRANSSIBERIAN ROUTE TO THE EAST.

The agent of the Belgian State railways at London, Mr. P. Defrance, has furnished the following account of the route to the East via the Transsiberian Railway and its possibilities:

> A gigantic enterprise—the construction of the Transsiberian Railway—destined to modify to a great extent the economic situation in a large part of the civilized world, has become a reality, and will, in a few years, be in full operation.

In recent years, the object of the great transportation companies has been to reduce the necessary time required to cross the Atlantic, which separates England from America, to traverse the New World from east to west in the least possible time, and to join America to China and Japan by means of rapid navigation across the Pacific.

The exposition at Chicago was the occasion for the American railways to attain the maximum of speed, certain trains having accomplished a mile in thirty-two seconds.

One recalls to mind also the feats of the great navigation companies in their competition for Anglo-American traffic and the swift passages of the *Compania* and *Lucania*, of the Cunard Steamship Company, those magnificent steamers which were able to reduce the passage between New York and Queenstown to five days, ten hours, and forty-seven minutes.

But these triumphs have not left the Old World indifferent. From the Côté de la Manche, the Pas-de-Calais, and the North Sea the competition for the anglo-continental traffic has become more intense. Efforts have been made by the Belgian Government to influence, by means of the Dover-Ostend line, the enormous travel between England and the Continent. Within a few years the Belgian Government has completely transformed its channel service; splendid packets have been put in commission, some of which are among the fastest boats in the world. These vessels easily make the crossing from Dover to Ostend in three hours. The latter city has become the head of the great international express lines, putting London in rapid communication with European cities, the Orient, and Egypt by means of trains de luxe running without change from Ostend to Constantza (for Constantinople), from Ostend to Trieste (for Alexandria), and from Ostend to Wirballen (for St. Petersburg.) Thanks to the last train, called the "Nord Express," the distance between London and St. Petersburg can be covered in fifty-two hours.

The construction of the Transsiberian Railway is expected to materially increase the importance of the Nord Express. The total length of the Transsiberian is 4,547 miles—from Tscheljabinsk to Vladivostok, on the sea of Japan. It will be the most extensive railway in existence.

More than a third of this gigantic enterprise is now completed; during the year 1895, 918 miles were constructed. At the same rate of progress, the line will be finished within two or three years. Several branch lines are to be constructed later; that from Kiakhta to Peking will have a length of from 600 to 700 miles.

A train traveling at the rate of speed of the Pullman service between New York and Chicago would be able to make the journey between St. Petersburg and Peking in five days; that is to say, it will be possible to reach Peking from London in eight or nine days, instead of thirty, the time required to cross the Atlantic, America, and the Pacific.

While waiting for the raising of the capital to construct this branch, work will be continued on the line across Manchuria from Nerchinsk to Vladivostok. The latter is separated from Nagasaki, Japan, by 600 nautical miles, and from Vassaunga (near Shanghai) by 1,000 miles.

With a speed of only 35 versts (23.2 miles) per hour, travelers who leave London may reach Japan in sixteen days and China in seventeen days.

The new railway will put Europe in communication with a population estimated to be in the neighborhood of 450,000,000 souls (comprising China, Japan, and Korea)—about a third of the population of the globe.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *March 20, 1897.*

CATTLE PLAGUE IN RUSSIA.

Only a few years ago, this terrible enemy of cattle spread without hindrance throughout European Russia, embracing annually from thirty-two to forty-eight different governments and destroying several hundred thousands of cattle, to the value of over 4,000,000 rubles.* In the latter part of 1880, strict veterinary police measures were adopted by the Ministry of the Interior, the officials of the different governments, and the zemstvos to prevent the spread of this epizoöty, which resulted in a great decrease and at last freed European Russia of it entirely. In forty-six governments, the cattle plague did not appear at all from 1887 to 1890, and in fourteen governments it was quickly checked, the annual loss of cattle even during the most unfavorable years amounting to only about 10,000 head, for which indemnity was paid to the peasants. Since January 15, 1895, no case of cattle plague has appeared in European Russia, and the sanitary condition of the stock is excellent.

As soon as this pest was wiped out of European Russia, attention was directed to northern Caucasus, from which territory the plague was usually brought to the southern and central governments of Russia. The same measures are being used as in European Russia and are meeting with success. There is a noticeable decrease in the disease. The Kuban region has been free from it since January, 1896, the Stavropol government since April, and the Ter region since October, 1896. The portions of Asiatic Russia bordering European Russia are entirely free from it. The Tobolsk government, the Turgai and Uralsk regions have been rid of it for a long time. Only the Semipalatinsk and the Semirechinsk regions, adjoining China, have not yet been cleansed from the dreaded plague. A large number of cattle and animal products (the only articles suitable for the exchange of trade between the Chinese and Russians) are imported annually. In the Akmolinsk region also, through which the cattle and animal products pass, the plague appears now and then. These three regions in 1895 and 1896 suffered an annual loss of about 6,000 head. The Semipalatinsk region suffered most seriously in 1896. In order to prevent the introduction of the plague in the northern Caucasus from Transcaucasia and in the steppe region from China, an order has been issued by the Ministry of the Interior to the administrative authorities to organize on the borders of said localities veterinary quarantine lines, over which cattle and raw products will be permitted to pass after being subjected to certain measures which will prevent their transmitting the plague. Furthermore, the Ministry of the Interior ordered the proper authorities to provide measures for increasing the supervision of the Transcaucasian frontier, which borders Asiatic Turkey and Persia, and to take steps against the plague in Transcaucasia and all localities in Siberia.

---

* The consul-general does not say whether he means gold or silver rubles. The value of the silver ruble on January 1, 1897, was 37.9 cents; the gold ruble is valued at 77.2 cents.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *February 6, 1897.*

MEASURES TO EXCLUDE THE INDIAN PLAGUE FROM RUSSIA.

The Trade and Manufactures Gazette of St. Petersburg publishes the new measures, as officially announced by the sanitary commission, to prevent the introduction of the plague existing in India into Russia.

At the meetings held by the sanitary commission on the 5th and 9th of February, the measures and regulations adopted and confirmed in 1893 and 1894 against bringing the plague through land or sea frontiers into the Russian Empire were approved and the following measures added:

(1) To send an expedition of medical men to India to investigate the causes and effects of the plague, its first appearance, and increase.

(2) To prohibit for this year the pilgrimages of Russian Mussulmans to Mecca or to the other places where the Shütes are wont to resort for devotional purposes; to forbid, also, the Russian Christians visiting the holy places of the East.

(3) To prepare and have ready a sufficient quantity of Dr. Jersen's antiplague whey.

(4) To send to localities offering unusual facilities for the introduction of the plague special delegates of the commission, who shall have at their disposal a staff of doctors, officers, and civil servants, for the purpose of aiding the local authorities in the execution of the measures recommended by the commission.

(5) To publish in the Government Messenger all reliable news regarding the course of the plague epidemic and all information relating to any further action taken or measures adopted by the commission.

The same paper reports that in accordance with the above regulations, the sanitary commission received a communication to the effect that the Russian consul-general at Khorassan had telegraphed the governor of Transcaspian territory that several Indians, who had come to Afghanistan, died in Kandahar last December of bubonic plague. Governor-General Kuropatkin, believing this report probable, at once took steps for the formation of a military cordon on the Afghan frontier, and ordered that travelers and merchandise should only be admitted through Takhtabazar, where a medical observation station had been established. The governor-general of Turkestan, on account of this report, ordered the complete closing of the Bokhara-Afghan frontier.

Information was received later that the Persian Government had closed its frontier toward Afghanistan and that the Afghan Government has suspended all traffic to and from India, that guardhouses have been placed at certain points on the roads to Pashawera and Kwetta, that no cases of plague have occurred in other places in Afghanistan than at Kandahar, and that no increase of mortality has been noticed.

So far the Russian Minister of Finance has granted a credit of 100,000 rubles to defray the cost of the sanitary precautions to be taken to prevent the introduction of the plague into the Russian Empire.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *February 15, 1897.*

GOVERNMENT LIQUOR MONOPOLY IN RUSSIA.

The Russian Government, in adopting the system of selling wines and liquors to the public through Government establishments, instead of private wine and liquor shops, wished to accomplish, according to the Minister of Finance, the following reforms: To better the condition of the population, to guard public morality from the corrupt influence of the low liquor saloons, and to sell to the consumers pure wine and liquors, which private parties generally adulterate to an injurious extent.

The Russian people drink a great deal of liquor which is called "vodki." It is simply diluted rye alcohol from 40 to 60 per cent strong. Among the peasants and lower classes it is used to such an extent that it is detrimental to their prosperity, especially in those provinces where the liquor business is in the hands of unscrupulous people, who take advantage of the inebriated condition of the peasants. When a Russian "moujik" is under the influence of liquor, he is willing to sell anything he owns regardless of price; consequently, the masses of peasants were losing their property and the private liquor dealers were growing rich rapidly. Government attention was called to the state of affairs, and complaints reached the late Czar Alexander III. After consideration as to how best to protect the peasants against such extortions and to liberate them from the grip of the liquor dealers, the late Emperor ordered, in July, 1894, that liquors should be sold through the Government in places where it was found necessary, and that a system, with rules and regulations, should be prepared and put into operation as soon as possible. In compliance with the imperial command, the Minister of Finance prepared a system for the introduction of such methods into twenty-five governments, which are divided as follows: The southern and southwestern, the northwestern, and the Vistula. To the first category, where the new system went into effect July 1, 1896, the following governments belong: Bessarabia, Volyn, Ekaterinoslav, Kiev, Podolia, Tauride, Kherson, and Chernigov. The second region, in which the Government system will go into operation July 1, 1897, comprises the Vilno, Vitebsk, Grodno, Kovno, Minsk, and Moguilev governments. The county board of the government of Smolensk asked the Minister of Finance to introduce the system of Government sale of liquors, and Smolensk will belong to the second category. The third category, where the Government sale of liquors will commence on January 1, 1898, comprises the governments of Poland.

Simultaneously with the introduction of this system of selling liquors, a special board is established, whose duties are to look after the temperance of the inhabitants, to help the Government in regulating the sale of wines and liquors, and to foster other forms of entertainment.

The Government buys 55 per cent of the annual local production of raw spirits at prices fixed by the Minister of Finance, which are established every year separately for each locality and depend on different circumstances, such as the price of distilling materials, the cost of fuel, wages, etc.

Although nothing definite can be said as yet about the results, data from the localities where it is in operation, collected by the Minister of Finance and officials, show that the reform works favorably and is appreciated.

The rules for selling liquors in Government shops, confirmed by the Minister of Finance March 4, 1897, and officially published March 12, 1897, contain fifteen paragraphs, as follows:

(1) The sale of wine and spirits in the Government liquor shops shall be only for outdoor use and in bottles sealed with the Government seal. The bottles shall be labeled with the stamp of the depot, on which the price of the liquor and of the bottle must be printed.

(2) Government wine and spirits are sold at the price printed on the label, which includes the cost of the wine or liquor and of the bottle.

(3) Empty bottles, if not damaged and bearing the Government label, stamp, and price, will be accepted by the Government liquor shopkeepers in exchange for bottles, filled either with wine or liquor, or for money, at the cost at which they were bought.

(4) The liquor shopkeepers must keep, for the accommodation of the purchasers of the Government liquors, bottles of all the different sizes. The bottles with liquors shall be placed on the shelves in regular rows, grouped according to the quality of liquors and the dimensions of the bottles. Empty liquor bottles must be kept apart from bottles filled with liquors.

(5) Liquors not of Government preparation (but sold on commission) shall bear a special label of red color, on which the selling price must be printed. Bottles from such liquors are not accepted in return unless special instructions are received.

(6) The sale of liquors on work days is to be carried on in villages from 7 o'clock in the morning until 8 o'clock in the evening, and till 10 o'clock in cities.

(7) On the first day of the Easter and Christmas holidays the liquor shops must be closed. On Sundays, the second and third days of Easter and Christmas holidays, Ascension Day, Trinity Sunday, Whitsuntide, on January 1 and 5, February 2, March 25, April 23 and 27, May 6, 9, 14, and 25, June 29, July 22, August 5, 15, and 29, September 8, 14, and 25, October 1, 21, and 22, November 14, 21, and 26, December 6, and on all local dedication days, the sale shall begin at 12 o'clock (in cities and villages where there are churches, at the end of the service) and close in villages at 8 and in cities at 10 o'clock p. m. During religious processions, no sale shall take place in Government liquor shops.

(8) No sale shall take place in Government liquor shops in villages during the volost meetings and during the examinations at the volost courts, and also in cases when special instructions are given by the Minister of Finance.

(9) Liquors are sold only for cash and are prohibited to be sold either on credit, in exchange for any kind of produce, articles, etc., or in return for loans. Liquors are also prohibited to be sold to minors and to intoxicated persons.

(10) The Government liquor shops must be kept clean and orderly. No pictures, portraits, or publications of any kind are permitted to hang on the inside walls of a Government wine shop, except an image of some saint, the rules for the sale of liquors, and the regulations of the excise administration. In the evenings, the shops must be well lighted.

(11) The seller must be polite, give the liquors asked for without delay, and in case any change is due, give it back with exactitude, not keeping back even a part of a copeck, under the excuse that he has no small change.

(12) If the seller is sick or absent from his shop, he must leave it in charge of some trusty person, not younger than 21 years of age, for whom he shall be responsible.

(13) The purchasers of liquors are required to take off their hats when they come into the shop, to behave decently, not to open wine bottles, not to drink in the shop, not to smoke, and not to remain longer than is necessary for making the purchase.

(14) The purchasers are not permitted to go into the lodging of the seller, and are required to obey the foregoing rules.

(15) In case the purchaser disturbs quiet and order in the shop, or violates the existing laws concerning the sale of liquors, or the rules here given, the seller must immediately notify either the excise inspector or the local district curator of public temperance, who shall make out a complaint and bring the accused to answer the charge.

The official statistics in regard to the sale of spirits show that the present distillery season began with a surplus of 15 per cent from the stock of last year. On the 1st of August last this difference amounted to 18.8 per cent. On September 1, 1896, the whole of the registered stock of spirits amounted to 7,665,071 vedros (20,749,347 gallons), against 5,987,572 vedros (16,208,357 gallons) in 1895-96, *i. e.*, 1,667,499 vedros (4,513,920 gallons), or 27.8 per cent more.

The movement of spirits in European Russia during the first two months of the last two seasons was as follows:

Description.	1895-96.		1896-97.	
	Vedros.	*Gallons.*	*Vedros.*	*Gallons.*
Production	189,604	513,258	191,279	517,792
Stocks at the beginning of the season	9,907,578	26,819,813	11,392,877	30,840,518
Total	10,097,182	27,333,071	11,584,156	31,358,310
Stock on September 1	5,987,572	16,208,357	7,655,071	20,722,277
Home consumption	4,109,610	11,124,714	3,929,085	10,636,033
Export	219,300	593,645	120,470	326,112
Amount remaining	3,890,310	10,531,069	3,808,615	10,309,921

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *March 15, 1897.*

MINT REGULATIONS AT ST. PETERSBURG.

The Russian Government has adopted and officially published new rules and regulations under which all gold in bars and foreign coins brought to the mint in St. Petersburg for recoinage will be accepted. The rules are:

(1) The St. Petersburg mint accepts gold voluntarily brought for recoinage into money at 42.31½ rubles[*] from a pood[†] of pure gold (counting an imperial at 15 rubles).

(2) Gold brought in bars for recoinage must not be of a lower standard than 900, not brittle, and must contain only copper as alloy.

(3) Gold received at the St. Petersburg mint in the shape of foreign coins brought for recoinage must not be of a lower standard than 890.

(4) Gold brought for recoinage is accepted in each separate case in a quantity of not less than half a pound.

(5) Gold is accepted every day, except Sundays and holidays, from 11 o'clock a. m. till 1 o'clock p. m.

(6) Gold that is brought is weighed in the presence of its owner or of his authorized agent.

(7) After weighing the metal, its standard is tested, if convenient; if not, the metal is remelted and its standard determined afterwards.

(8) The remelting of the metal and the determination of its standard are made in the presence of its owner, or of his agent, if he so desires it.

(9) For determining the standard of the gold, 50 copecks (38.6 cents) are collected for each trial. The fee for remelting the metal, if this is necessary, is 20 copecks (15.44 cents) for the first ligature pound and less and 10 copecks (7.72 cents) for every following pound. The fee for fixing the standard and remelting the gold is calculated at 15 rubles per imperial ($11.55).

---

[*] 1 gold ruble=77.2 cents.

[†] 1 pood=36.112 pounds.

(10) In case the proprietor of the gold is not satisfied with the standard defined by the mint, he can take his metal back after having paid the expenses for the determination of the standard and for melting.

(11) The standard of the gold is defined on assay scales of decimal division.

(12) The standard of gold entering the mint is defined with an exactitude up to the fifty-thousandth part.

(13) The weighing of the gold is done on ordinary scales, divided into poods, pounds, zolotniks, and dolias.* The exactitude of the weight is limited by an underweight of 6 dolias (4.116 grains) up to 10 pounds; from 10 pounds to 1 pood (36.112 pounds), 6 dolias for every 5 pounds; from 1 to 3 poods, 48 dolias (32.928 grains). No underweight is allowed over 3 poods.

(14) Gold is reckoned by the mint at $5.50\frac{1058}{1089}$ rubles per zolotnik of pure gold, *i. e.*, counting an imperial 15 rubles ($11.55).

(15) The money due to the owners of the gold is paid by the mint, if possible, not later than three days after the gold has been brought.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *March 24, 1897.*

PETROLEUM TRADE OF RUSSIA.

The statistics annexed will give some idea of the progress which this trade is making, but they do not show that the trade was greatly hampered from November, 1895, to June, 1896, by the destruction of about 40 miles of the Baku-Batum Railroad. This misfortune occurred on November 10, 1895, and was caused by floods, there having been heavy snowfalls in the mountains, followed by thaws and rains. The railway was completely obliterated for a distance of from 30 to 40 miles, including several important bridges, and its reconstruction was greatly impeded by snow and rain all through the winter. Not even passenger trains were run for several months, and then the service was exceedingly uncertain for several months more, while the normal freight transportation capacity was not reached until June, 1896. Two pipe lines were constructed over the part of the line most damaged and requiring the longest time to repair, but they were not of as much assistance as had been hoped, and the trade found its only reliable outlet for refined oil by sea to Petrovsk and thence to Novorossisk, on the Black Sea, by the Vladikavkas Railroad, at a transportation rate about 50 per cent in excess of the Baku-Batum rate, with transportation capacity exceedingly limited. However, owing to the high prices of refined oil in the foreign markets at the end of 1895 and beginning of 1896, it was possible to pay the increased freight.

The statistics show that 133 wells were finished in 1896, against 91 in 1894 and 92 in 1895, and that 620 wells were producing in the month of December, 1896, against 501 in the month of January, while in December there were more than 200 wells being drilled, against 137 in the month of January; the exact number in December is not shown by the statistics, but I have the information from a reliable source, and also that there were 38 rigs erected in the month of December, making the total number of new rigs built in the year 254, which indicates a continuation of drilling upon a still heavier scale than in 1896.

---

*1 pood=36.112 pounds; 1 Russian pound=0.90282 English pound; 1 zolotnik=4.2657 grams; 1 dolia=0.686 grain troy.

That this great increase in the volume of work indicates prosperity can not be doubted, but the following estimates of the financial results of the whole trade in 1895 and 1896 will give a clear idea of the extent of that prosperity:

Estimate of the financial results of the Baku oil business in 1895 and 1896.

Description.	1895.	1896.
Expenses.		
Producing:		
Drilling 146,048 feet in 1895 and 196,000 feet in 1896, including cost of machinery	$2,712,320	$3,640,000
Royalty, one-half of a copeck (about two-tenths of a cent) per pood (36.112 pounds) on 377,000,000 poods (13,614,224,000 pounds) in 1895 and 386,000,000 poods (13,939,232,000 pounds) in 1896	980,200	1,036,000
Working expenses, 1 copeck (about four-tenths of a cent) per pood	1,960,400	2,072,000
Pipeage, storage, etc., one-half of a copeck per pood	980,200	1,036,000
Refining:		
Labor, etc., 2 copecks per pood on 87,200,000 poods (3,148,966,400 pounds) of refined in 1895 and 89,300,000 poods (3,224,801,600 pounds) in 1896	910,000	928,720
Chemicals, 2 copecks per pood	910,000	928,720
Office expenses, storage of refined, and other expenses	455,000	464,360
Total	8,908,120	10,105,800
Receipts.		
From sale of 81,000,000 poods (2,925,072,000 pounds) of refined in 1895 at 16.2 copecks per pood and 85,500,000 poods (3,087,576,000 pounds) in 1896 at 19 copecks per pood	6,823,440	8,447,400
From sale of 180,400,000 poods (6,514,704,800 pounds) of residuum in 1895 at 6.1 copecks per pood and 185,500,000 poods (6,520,021,600 pounds) in 1896 at 7.5 copecks per pood	5,722,080	7,231,575
From sale of 15,000,000 poods (541,680,000 pounds) of crude in 1895 at 6.9 copecks per pood and 25,485,000 poods (920,314,320 pounds) in 1896 at 7.5 copecks per pood	542,880	988,714
Total	13,088,400	16,667,689
Apparent profits	4,180,280	6,561,889

The figures for 1895 are from the report of the Baku Producers' Association for that year, but those for 1896 are my own estimate, the prices being based upon information at hand, and are probably considerably less than the actual prices realized. If the value of the lubricating oil sold and the increase in the stocks of other products, less cost of decrease in crude stocks, are added to the figures for

1896, they will swell the apparent profits of the trade for that year to about $8,500,000.

The steadily increasing depth of the wells has naturally greatly increased their cost. In parts of the oldest territory (Balakhani), paying wells are still struck at from 500 to 700 feet, and as much drilling has recently been done in this old territory, the average depth of wells completed is not so great as it would be without such shallow wells, as in Sabunchi the oil is not found much under 1,100 to 1,400 feet, while in Romani and Bibi-Eibat, the wells are now over 1,400 feet, one good well in the former territory being 1,743 feet, which is now flowing over 12,000 barrels per day. Of course, the cost of wells varies according to their depth, but the following statistics from an average well at Sabunchi will give a fair idea of the average cost of wells.

The well referred to is 1,185 feet deep, but as the richest vein of oil was found at 1,148 feet, it is only that depth in places; however, owing to the formation being devoid of rock and wholly sandy, it is necessary to pipe the hole as fast as drilled, and as much difficulty is found in getting pipe in the hole, wells are commenced with very large holes, varying according to the depth it is expected to drill. For wells which are expected to be over 1,000 feet, the hole at the start is usually 26 inches in diameter, and is finished with from 14 to 16 inch pipe, according to the success met with in drilling. The pipe used, however, is not the lap-welded casing or pipe used in the United States, but is made of three-sixteenths to one-fourth inch iron and riveted, the joints being about 4 feet each clear of the coupling, which is riveted on the pipe. The average cost of a derrick is about 800 rubles,* and it costs as much more to fit up ready for drilling, while the machinery, consisting of a 30-horsepower boiler and a 25-horsepower engine, costs about 4,000 rubles. Drilling by contract costs on an average 70 rubles per 7 feet to the depth of 700 feet and 80 rubles per 7 feet for the next 70 feet, increasing progressively 10 rubles per 7 feet for each 70 feet deeper, which made the cost of drilling the well taken for an example—1,185 feet—about 14,360 rubles. The well was started with 26-inch pipe, of which 175 feet were used; then came 313 feet of 24-inch, 455 feet of 22-inch, 735 feet of 20-inch, 1,025 feet of 18-inch, and the well was finished with 1,148 feet of 16-inch pipe. The cost of all the pipe, together with the steel shoes for each size, was about 15,360 rubles, making the total cost of the well about 35,320 rubles, equivalent to about $18,619. But this is not the whole cost of a well ready to pump or flow, as it generally takes the work of weeks, and sometimes months, to get the well cleaned out after drilling is finished, as they usually contain much sand and often mud and water, so that I believe it perfectly safe to estimate the average cost of wells in the Baku territories at $20,000 each.

---

* The consul estimates the ruble at 53 cents.

The average daily production of wells in December was about 225 barrels, and the present price of crude is about 34 cents per barrel. The statistician for the Producers' Association estimates the cost of pumping at 1 copeck per pood (a little more than half a cent per 36.112 pounds), which is about 4 cents per barrel, and which I think too high; but, taking his estimate, the producer would be left 30 cents per barrel clear, or an income of about $67.50 per day from the average well.

As shown by the foregoing figures, prices of all products were high in 1896. In December, crude reached the unprecedented price of about 43 cents per barrel, and little was offered at that price, notwithstanding the great decline in demand caused by the Volga, the principal outlet for the home trade, being closed by ice. Prices were maintained for several weeks, but the decline in the prices of refined in the foreign markets commenced to affect the crude market about the first of this year, and it has since gradually declined until now it is quoted weak at about 34 cents per barrel at refineries. Unless the Volga opens earlier than it ever has before, the chances are that both crude and refined prices will go still lower. There is practically no profit for the refiner at present prices of crude and refined, while the crude production is greatly in excess of the demand, and will continue so until Volga navigation opens.

FLOWING WELLS.

Notwithstanding the fact that the production from flowing wells in 1896 was about 3,000,000 barrels less than in 1895, there were two new, large, flowing wells last year, both at Bibi-Eibat, which is about 10 miles south of the Balakhani-Sabunchi-Romani territory. The first of these wells commenced flowing on January 30 and continued for thirty-six days, in which period it produced more than 3,000,000 barrels of oil, while the second commenced flowing in June and produced even more oil than the first.

SEEKING NEW TERRITORY.

The exceedingly prosperous state of the Baku trade has greatly encouraged prospecting for new territory and more "wildcatting," as it is called in the United States, is now being done than ever before in the history of the trade, with, however, anything but satisfactory results. Near Poota, a station on the Baku-Batum Railway, about 12 to 15 miles south of Baku as the crow flies, a well has been drilled to the depth of 861 feet without finding sufficient oil to pay; and at Hindar-Sindi, about 35 miles north of Baku, on the shore of the Caspian Sea, two wells have reached the depths of 784 and 973 feet, respectively, with the same result as at Poota. These wells were located upon surface indications and the existence of oil at shallow depths, which was discovered by trial drillings by hand. Still further north, close to the Caspian and about 20 miles south of Petrovsk, a well is said to be producing about 25 barrels per day from 240 feet. At Soupsa, a station on the Baku-Batum Railway about 35 miles north of Batum, a Belgian company commenced drilling several months ago, the inducement being the usual surface indications which may be found almost anywhere in the world, and at last accounts the well was over 400 feet deep, with considerable gas, but no oil. At Koodakoo, on the Kuban River, about 30 to 40 miles east of Novorossisk, a Baku company has drilled six or eight wells in the last two years without getting anything to pay them for their outlay, but I understand that this company will continue prospecting.

PIPE LINE FOR REFINED OIL.

The railway disaster of last year can be credited with the determination of the railway company (a Government institution) to construct a pipe line from Michailova to Batum (a distance of about 145 miles and covering the most difficult part of the Baku-Batum line) for refined oil. The intention is to bring the oil from Baku to Michailova (about 415 miles) in tank cars, as at present, and deliver it from Michailova to Batum by pipe, the pipe to be 8 inches in diameter. This will greatly increase the transportation capacity of the railroad, it is thought, and prove sufficiently profitable and advantageous to induce the railroad to continue the pipe line on to Baku in the near future.

It is expected that this Michailova-Batum pipe line will be completed by October this year, but as the pipe, or about 120 miles of it, is to be made by a mill which has been brought from the United States and is now being erected at Mariopol, on the Sea of Azov, I think it quite safe to predict that the line will play no important part in the trade this year.

BAKU REFINERS' COMBINATION.

In a previous report from this consulate, mention was made of a combination of Baku refiners, which was formed in 1893–94. This combination, called the "union," was reorganized in March, 1895, and embraces about 80 per cent of the trade, controlling all the tankage and facilities for loading oil in bulk at Batum. It has for its object to do away with the hitherto ruinous competition in the European markets between the Russian refiners, as the combination is pledged to sell only through three agents (two too many, of course) and at prices to be fixed by a committee of fourteen of its members, who meet at Baku. A number of can and case manufacturers at Batum, however, refused the terms offered them by the union and have continued selling case oil in competition with the union, obtaining refined from the few refiners at Baku who declined to go into the union.

While this combination may have benefited the Russian trade by stopping competition among the Baku refiners, it had no influence whatever upon prices abroad, which have been, and continue to be, wholly dominated by American oil; and the Russian trade simply followed the advance in American prices in 1895 and 1896, as it is now compelled to follow the decline in American prices. Still, competition between Russian exporters would undoubtedly result in a decline in prices of Russian refined which might have to be followed by American oil for a time at least, and as the dissolution of the union is looked for in October, it may be that the future of the trade will be unfortunate. The union agreement was for five years, but the members had the right to withdraw from it on October 1–13, this year, by giving six months' notice, which notice must be given by April 1–13, this year. At Baku, the general opinion seems to be that the union will be dissolved in October, but there seems to be so little to gain and so much to lose by such a course that I can not believe that it will be pursued. My impression is that certain members are talking dissolution for the purpose of securing advantages which they do not now possess, and that the union will be continued if these people get what they want, which I think likely.

THE GROSNI FIELD.

This territory, situated about 8 miles from the railway station of Grosni, on the Vladikavkas Railroad about 80 miles west of the Caspian Sea port of Petrovsk, was opened by the striking of a well which started flowing at the rate of probably 100,000 barrels per day in November, 1893, and great things were expected of it and preparations commenced for taking care of a large production; but the field seems to have had disappointing results, as on January 31 there were only twelve wells, producing about 7,500 barrels per day, seven wells in process of drilling, two wells being drilled deeper, and eight new derricks.

There are five pipe lines from the wells to the Grosni railway station and two refineries at the station. One of these refineries is a tolerably large one and was constructed by a Belgian company, which bought the best territory at Grosni; but this refinery has only turned out one cargo of refined, which was shipped to Antwerp some months ago, and has done nothing since, while the second refinery belongs to the Vladikavkas Railroad and has not yet commenced working. I do not know why the Belgian company's refinery has stopped working, but it is possible that it has been found that the Grosni oil is not good enough to compete with Baku crude in refining, as I have heard that Grosni crude yields only from 15 to 18 per cent of illuminating oil and then leaves a residuum too heavy to compete with Baku residuum as fuel; but I do not know if that is true. It is also possible that the Grosni producers find it more profitable to sell their crude for fuel than for refining, as during the winter months Grosni's vicinity to the home markets gives it a great advantage over Baku.

BAKU PETROLEUM STATISTICS.

I inclose statistics of Baku production for 1895 and 1896, stocks of all products at Baku at the end of the year, producing and drilling wells and new rigs built in 1896, and output of all products from Baku, Novorossisk, and Batum in 1895 and 1896.

Production of crude oil of Baku fields in 1895 and 1896 (in barrels of 42 gallons).

Month.	Balakhani-Sabunchi.		Romani.		Bibi-Eibat.		Total.	
	1895.	1896.	1895.	1896.	1895.	1896.	1895.	1896.
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*
January	2,056,190	2,120,799	955,941	670,513	246,421	740,573	3,258,552	3,531,885
February	2,126,996	2,166,566	1,583,048	774,033	223,163	716,870	3,953,207	3,657,469
March	2,288,031	2,035,338	1,815,486	630,000	345,625	389,353	4,449,142	3,054,691
April	2,201,192	2,155,410	1,241,965	690,838	469,545	712,090	3,912,702	3,558,338
May	2,371,683	2,387,622	1,400,171	782,110	1,372,295	792,352	5,144,127	3,962,084
June	2,156,890	2,158,689	970,368	661,738	660,438	939,118	3,787,697	3,759,545
July	2,294,792	2,296,498	682,792	1,056,776	504,733	1,337,876	3,482,317	4,691,150
August	2,215,414	2,710,166	618,533	1,058,005	323,545	859,471	3,157,494	4,627,642
September	2,011,269	2,398,038	709,700	792,400	323,567	592,984	3,044,536	3,783,422
October	2,040,989	2,556,472	1,287,650	774,967	591,862	442,463	3,920,501	3,775,902
November	2,061,766	2,605,069	1,268,987	601,854	316,227	432,438	3,646,980	3,639,361
December	2,440,376	3,007,893	834,393	877,364	277,949	427,027	3,552,718	4,312,284
Total	26,265,388	28,598,560	13,369,037	9,370,598	5,655,368	8,382,615	45,289,983	46,351,773

Production from flowing wells (in barrels of 42 gallons).

Month.	Balakhani-Sabunchi.		Romani.	
	1895.	1896.	1895.	1896.
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*
January	86,520	84,960	538,680	172,080
February	266,880	202,820	1,200,840	303,840
March	267,120	5,260	1,376,760	54,240
April	308,320	17,160	866,040	152,040
May	157,800	63,360	1,051,840	203,760
June	162,840	....	576,440	177,360
July	400,040	....	260,400	497,040
August	153,240	343,200	167,880	392,280
September	....	....	221,040	99,840
October	....	155,040	771,240	173,760
November	149,680	312,480	815,640	19,440
December	378,120	527,520	364,440	232,800
Total	2,330,560	1,711,800	8,211,240	2,478,480

Month.	Bibi-Eibat.		Total.	
	1895.	1896.	1895.	1896.
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*
January	92,880	540,000	718,080	797,040
February	16,080	508,800	1,483,800	1,015,460
March	164,760	183,600	1,808,640	248,100
April	325,920	515,520	1,500,280	684,720
May	1,160,160	591,840	2,369,800	858,960
June	400,680	819,000	1,139,960	996,360
July	265,680	1,173,600	926,120	1,670,640
August	83,280	690,000	404,400	1,425,480
September	65,640	403,200	286,680	503,040
October	362,640	291,960	1,133,880	620,760
November	91,320	256,920	1,056,640	588,840
December	64,800	273,720	807,360	1,034,040
Total	3,093,840	6,248,160	13,635,640	10,438,440

Average daily production (in barrels of 42 gallons).

Month.	Flowing wells.		Pumping wells.		Total.	
	1895.	1896.	1895.	1896.	1895.	1896.
	Barrels.	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*	*Barrels.*
January	23,161	25,711	81,953	88,231	105,115	113,932
February	52,992	33,015	87,480	91,104	140,472	126,119
March	58,345	7,842	85,177	90,696	143,420	98,538
April	50,009	22,824	80,414	95,787	130,423	118,611
May	76,445	27,708	89,495	100,101	165,940	127,809
June	37,999	33,212	88,258	92,106	126,257	125,318
July	29,875	53,892	82,487	97,435	112,362	151,327
August	13,045	45,983	88,809	103,296	101,854	149,279
September	9,556	16,768	91,928	109,346	101,484	126,114
October	36,577	20,024	89,891	101,715	126,468	121,739
November	35,328	19,628	86,338	101,684	121,566	121,312
December	26,044	33,356	88,559	105,250	114,603	139,106
Total	36,515	28,526	87,497	98,266	124,082	128,644

Stocks at wells at end of month (in barrels of 42 gallons).

Month.	1895.	1896.	Month.	1895.	1896.
	Barrels.	*Barrels.*		*Barrels.*	*Barrels.*
January	1,048,002	651,791	July	742,073	638,566
February	1,195,521	818,279	August	533,723	561,742
March	1,311,461	895,020	September	424,020	537,822
April	1,026,349	750,041	October	564,814	539,800
May	1,171,440	804,369	November	588,877	540,607
June	971,780	657,474	December	506,937	764,690

Stocks of all products at Baku.

Product.	January 1, 1896.	January 1, 1897.	Increase.	Decrease.
Crude at wells … barrels	506,937	764,690	257,753	
Crude at works … do	3,594,866	2,636,524		958,342
Total … do	4,101,803	3,401,214		700,589
Illuminating … gallons	58,870,235	71,785,020	12,914,785	
Lubricating … do	7,805,105	6,920,180		884,925
Residuum … do	125,611,405	238,460,315	112,848,910	

Wells producing and drilling and rigs built in 1896.

Month.	Producing wells.				Wells started drilling.			
	Balakhani-Sabunchi.	Romani.	Bibi-Eibat.	Total.	Balakhani-Sabunchi.	Romani.	Bibi-Eibat.	Total.
January	425	51	25	501	10	2	1	13
February	430	52	26	508	5		2	7
March	430	55	26	511	10	5	1	16
April	453	59	24	536	11	4	1	16
May	456	57	27	540	7	2	1	10
June	474	56	17	547	11	4	1	16
July	477	65	24	566	6	4	2	12
August	483	68	24	575	10	1	1	12
September	499	72	26	597	21	4	2	27
October	510	70	26	606	29	6	1	36
November	516	72	26	614	17	1	3	21
December	519	75	26	620	22	1	1	24
Total					159	34	17	210

Wells producing and drilling and rigs built in 1896—Continued.

Month.	Wells finished drilling.					Rigs built.	Wells drilling.	Wells drilling deeper.
	Balakhani-Sabunchi.	Romani.	Bibi-Eibat.	Total.	Average depth.			
					Feet.			
January	10	2	1	13	890	14	137	47
February	6	4	1	11	840	20	141	31
March	4	2	1	7	868	10	145	43
April	7	1	...	8	770	9	150	42
May	4	1	1	6	798	18	152	45
June	12	2	...	14	984	10	159	44
July	9	2	...	11	924	21	152	45
August	7	3	...	10	959	17	152	42
September	14	2	...	16	970	17	164	52
October	13	3	...	16	826	44	194	56
November	8	2	...	10	1,166	36	160	43
December	9	...	2	11	895	...	...	...
Total	103	24	6	133	...	...	...	...

Output of petroleum products from Baku in 1895 and 1896.

Product.	By railroad.		By Caspian Sea.		Total.	
	1895.	1896.	1895.	1896.	1895.	1896.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
Crude oil	14,200,455	13,910,000	61,455,670	113,515,000	75,656,125	127,423,000
Residuum	38,414,980	37,135,000	863,476,935	889,990,000	901,891,915	927,125,000
Illuminating oil	262,662,040	237,690,000	164,660,080	195,925,000	427,328,120	433,615,000
Lubricating oil.	25,056,580	20,350,000	8,820,680	22,435,000	33,877,260	42,785,000
All others	62,965	640,000	3,781,785	4,540,000	3,844,750	5,180,000
Total	340,397,020	309,725,000	1,102,195,150	1,226,405,000	1,442,598,170	1,536,130,000

Shipments of petroleum products from Novorossisk in 1895 and 1896.

To—	Crude and residuum.		Lubricating, 1896.	Solar and distillate.	
	1896.	1895.		1896.	1895.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
Austria-Hungary	...	50,000	746,500	2,813,510	1,849,955
Belgium	1,285,000	...	3,608,825	...	...
France	2,159,965	...	4,780,140	274,695	...
Germany	...	...	832,250	...	...
Italy	1,147,005	...	...	...	...
Spain	...	...	150,000	...	...
Great Britain	925,100	5,643,795	3,767,600	369,745	1,493,995
Total exported	5,517,070	5,693,795	13,885,315	3,457,950	3,343,950
Russia	145,205	...	...	...	...
Total shipped	5,662,275	5,693,795	13,885,315	3,457,950	3,343,950

Shipments of petroleum products from Novorossisk in 1895 and 1896—Continued.

To—	Refined.		Total.	
	1896.	1895.	1896.	1895.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*
Austria-Hungary	533,745	.....	4,093,755	1,899,955
Belgium	2,787,190	.....	7,681,015	.....
France	.....	.....	7,214,800	.....
Germany	1,144,175	.....	1,976,425	.....
Italy	2,062,850	.....	3,209,855	.....
Spain	.....	.....	150,000	.....
Suez Canal (bulk)	36,360,030	.....	36,360,030	.....
Great Britain	11,970,385	3,637,545	17,032,830	10,775,335
Total exported	54,858,375	3,637,545	77,718,710	12,675,290
Russia	4,960,050	1,012,160	5,105,255	1,012,160
Total shipped	59,818,425	4,649,705	82,823,965	13,687,450

Shipments of petroleum products from Batum in 1895 and 1896.

To—	Crude and residuum.		Lubricating oils.		Solar and distillate.	
	1896.	1895.	1896.	1895.	1896.	1895.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*	*Gallons.*
Austria (Trieste)	75,295	382,000	348,650	1,042,000	1,692,605	5,561,290
Hungary (Fiume)	353,530	81,495	863,325	556,795	5,392,875	18,890,115
Belgium	70,515	2,753,450	2,306,855	5,068,555	.....	227,200
Bulgaria and Servia	1,500	.....	32,700	48,050	.....	.....
Egypt	19,800	21,100	70,700	81,650	.....	.....
England (United Kingdom)	168,355	221,050	2,337,375	4,308,460	9,666,955	5,924,565
France	1,346,870	2,452,245	3,705,990	6,626,620	14,785,630	12,710,795
Germany	443,265	308,925	6,132,055	7,306,105	15,000	.....
Holland	.....	.....	.....	73,200	.....	.....
Italy	450,650	47,400	208,025	92,700	.....	.....
Roumania	1,050	3,250	254,900	464,500	.....	.....
Turkey	41,950	44,050	74,350	63,450	.....	.....
Other countries	.....	152,000	10,500	83,340	232,865	.....
Total exported	2,972,780	6,466,965	16,345,425	25,815,425	31,785,930	43,313,965
Russia	377,160	736,455	895,350	1,520,660	15,850	3,850
Total shipped	3,349,940	7,203,420	17,240,775	27,336,085	31,801,780	43,317,815
Decrease	3,853,480	.....	10,095,310	.....	11,516,035	.....

Shipments of petroleum products from Batum in 1895 and 1896—Continued.

To—	Refined oil.		Total.	
	1896.	1895.	1896.	1895.
	Gallons.	*Gallons.*	*Gallons.*	*Gallons.*
Austria (Trieste)	743,645	5,165,005	2,860,195	12,150,295
Hungary (Fiume)	1,439,125	...	8,048,855	19,528,405
Belgium	4,282,835	10,600,260	6,660,205	18,649,465
Bulgaria and Servia	4,486,055	3,830,860	4,520,255	3,878,910
China	11,251,210	12,562,850	11,251,210	12,562,850
Egypt	8,458,240	8,472,980	8,548,740	8,575,730
England (United Kingdom)	19,068,125	24,941,060	31,240,810	35,395,135
France	1,291,915	3,185,975	21,130,405	24,975,635
Germany	1,934,795	4,836,095	8,525,115	12,451,125
Holland	...	4,601,680	...	4,674,880
India	38,160,280	45,822,260	38,160,280	45,822,260
Italy	4,953,115	6,147,320	5,611,790	6,287,420
Japan	3,460,540	3,800,000	3,460,540	3,800,000
Java	9,749,700	15,056,560	9,749,700	15,056,560
Manila	1,525,100	2,614,610	1,525,100	2,614,610
Malta	635,495	1,477,895	635,495	1,477,895
Roumania	311,070	826,260	567,020	1,294,010
Turkey	27,881,400	19,671,730	27,997,700	19,779,230
Suez Canal (bulk)*	19,208,920	43,107,870	19,208,920	43,107,870
Africa	250,250	791,350	250,250	791,350
Other countries	239,190	3,807,815	482,555	4,043,155
Total exported	159,331,005	221,320,435	210,435,140	296,916,790
Russia	26,384,096	27,785,985	27,672,456	30,046,950
Total shipped	185,715,101	249,106,420	238,107,596	326,963,740
Decrease	63,391,319	...	88,856,144	...

* This is refined oil in bulk for India, Straits Settlements, Java, China, and Japan, but its actual destination is not known at Batum, as vessels clear for Port Said for orders.

BATUM NAVIGATION RETURNS.

The following are the arrivals at, and clearances from, the port of Batum of all vessels in the years 1895 and 1896:

Arrivals.

Nationality.	Sailing vessels.				Steamers.			
	1895.		1896.		1895.		1896.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	...	...	...	...	87	100,209	77	90,360
Belgian	...	...	...	...	...	...	14	21,364
British	1	331	1	331	225	382,481	152	270,189
Danish	...	...	...	...	13	16,769	14	17,498
Dutch	...	...	...	...	...	...	3	4,581
French	...	...	...	...	76	99,071	80	107,311
German	...	...	...	...	22	25,258	22	25,625
Greek	110	47,002	120	50,452	8	9,688	13	8,954
Italian	...	...	3	1,881	...	...	16	19,871
Norwegian	...	...	...	...	9	14,680	6	8,388
Russian	11	1,032	7	1,334	70	74,283	74	158,304
Turkish	93	13,020	883	19,326	6	6,767	4	5,119
Others	6	4,612	...	...	48	58,061	2	760
Total	221	65,997	1,014	73,324	564	787,267	477	738,324

Clearances.

Nationality.	Sailing vessels.				Steamers.			
	1895.		1896.		1895.		1896.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
Austrian	......	......	......	......	87	100,209	76	88,506
Belgian	......	......	......	......	......	......	14	21,364
British	1	331	1	331	224	384,295	154	273,033
Danish	......	......	......	......	13	16,769	14	17,498
Dutch	......	......	......	......	......	......	3	4,581
French	......	......	......	......	77	100,175	80	107,311
German	......	......	......	......	23	26,140	22	25,625
Greek	110	47,002	118	49,539	8	9,688	11	7,267
Italian	......	......	3	1,881	......	......	16	19,871
Norwegian	......	......	......	......	9	14,680	6	8,388
Russian	12	1,124	6	1,132	57	67,747	74	158,304
Turkish	90	11,633	869	19,250	6	6,767	4	5,119
Others	6	4,612	......	......	48	58,061	2	760
Total	219	64,702	997	72,133	552	784,531	476	737,627

JAMES C. CHAMBERS,
Consul.

BATUM, *February 15, 1897.*

TRADE OF VALENCIA.

Fruit.—The orange crop this season proved very satisfactory to the farmer. The quality was better, being firmer and more solid than last year, while the quantity was calculated to be about 5,000,000 cases. Up to the 1st of February, 1897, 1,500,000 cases had been shipped and an estimate as to the fruit remaining on the trees gave it at about 3,500,000 cases. Prices, however, were not in accordance with these results and did little toward satisfying farmers; owing to the large shipments, almost exclusively to English markets, prices were depressed throughout the season, while the prices asked for the fruit here were exceedingly firm, high, and rising.

Direct shipments to the United States have amounted to 63,879 cases so far during this season.

Raisins showed, generally, a more satisfactory result. The sound condition of the fruit and the better prices than those of last season disappointed speculators, who, in view of last year's experience, had hoped for low prices, and were forced to pay dear for inferior fruit in order to meet their engagements.

The total results of this year's crop were 451,941 quintals,* against 452,128 quintals last year.

---

*1 metric quintal=220.46 pounds.

While the average price last year ranged between $1 and $3.50, first cost, per quintal, this year's prices opened at $4, declined to $3, and rose again to $4.50, leaving an average of $3.50.

The shipments this season were 259,759 quintals to England, 83,726 quintals to America, and 108,456 quintals to the Continent.

Steel wire.—An article much in demand here is steel wire for the manufacture of nails. There are several factories with machinery from Germany which produce these nails exclusively, they being used especially for orange and onion cases. The wire came formerly from Germany, but the high tariff duty here prevented that country from continuing its export. Home production from the Basque provinces was next tried, but the result seems not to have been satisfactory. Now, Belgian and English wire is imported. If American wire, which competes favorably in price with the European product, could be introduced, it would find a good market and sufficient sale.

Imports and exports.—The imports and exports of the principal articles at this port during the year 1896, compared with the previous year, show a decrease in imports of 9,543 tons and an increase in exports of 21,114 tons.

THEODOR MERTENS,
Consular Agent.

GRAO, *February 12, 1897.*

CANNED TOMATOES IN BELFAST.

The attention of firms doing business in tinned, or canned, goods for export trade is called to recent information in regard to the Belfast market.

It is estimated that there are consumed annually in this vicinity from 150,000 to 175,000 tins and jars of fruits and vegetables. A very large proportion of these goods are imported from the United States, and the demand is on the increase, except for canned tomatoes. The cause of this single exception is alleged to be that Italian tinned tomatoes are taking the place of the American article. The reason assigned is that the Italian tomato is put up in a condition better suited to this market and is therefore a greater favorite.

It is claimed for the Italian tomatoes that they are in a firmer condition when opened than the American brands, and retain the natural flavor better. The American article, it is alleged, is too pulpy and mushy, and has too much juice and too little substance. One dealer, who assures me he would rather handle the American brands, assigns as a reason for this condition that the vegetable is pulled too ripe and cooked too long, while the Italian article is plucked in a slightly greener condition and cooked less; therefore, when opened, it is in better condition.

A close comparison of the external appearance of the tins leads me to believe that some preference may also result from the arrangement and coloring of the labels and the make of the tins, which have heavier rims than the American tins. The effect is to give the Italian tins the bulkier look, though when placed on the scales the weight is practically the same.

Heretofore the price of American tinned tomatoes has been somewhat higher than that of the Italian goods, but in order to offset the increasing demand for the latter, the American exporters have reduced their prices, so that at present, quotations for both the American and Italian goods, delivered, are about the same. Usually, purchases are made from the authorized agents or jobbers in Liverpool or Glasgow. Present prices, in 100-case lots and over, are quoted from 88 to 92 cents per dozen tins for best quality; some qualities, perhaps, sell under these figures. The dealer charges the consumer 12 cents per tin.

In this climate, tomatoes are grown only in hothouses, and retailed in their natural state as a fruit from 16 to 24 cents per pound, according to the time of year, the quality, and supply.

Tomatoes imported in season from the Channel Islands and France are sold at from 12 to 16 cents per pound retail. Their condition, however, is rarely choice, so they do not compete seriously with the hothouse article at the higher price. In either case, the cost excludes this delicious and healthy vegetable from the table of all classes except the well to do, hence it is that tinned goods are destined to come into more general use as their nutritious qualities are learned and appreciated, if the price keeps within the reach of the general consumer.

The American tinners and exporters have facilities unequaled by those of any other country for supplying the growing Irish trade, and it rests with themselves largely whether they keep it, or, through inattention, permit it to pass into the hands of their ever-vigilant, active, and shrewd competitors in Italy and other continental countries.

JAMES B. TANEY,
Consul.

BELFAST, *March 23, 1897.*

RECENT INCREASE OF EXPORTS FROM BELFAST.

I beg to call the Department's attention to the activity displayed by the textile manufacturers and shippers of Belfast and vicinity during the past month, and particularly during the last fortnight, in the shipment of goods to the United States.

Exports from Girgenti, Licata, Catania, Termini, and Palermo.

To—	July to December.			January to December.		
	1896.	1895.	1894.	1896.	1895.	1894.
	*Tons.**	*Tons.**	*Tons.**	*Tons.**	*Tons.**	*Tons.**
Great Britain	9,919	10,192	12,484	22,189	23,680	21,210
South of France	36,778	31,478	24,823	72,844	67,842	53,948
North of France	3,030	1,197	1,258	3,437	3,516	3,011
Holland	2,748	1,701	1,359	3,738	3,467	2,285
Belgium	3,724	3,425	2,913	7,605	6,567	5,743
Germany:						
Elbe	9,755	7,272	7,716	15,954	14,364	14,439
Baltic	132	244	350	1,986	1,623	3,363
Austria-Hungary	5,876	4,706	4,525	13,690	11,637	11,286
Russia	8,456	7,959	8,684	18,455	18,461	18,646
Sweden and Norway and Denmark	4,534	2,794	2,744	14,266	6,154	7,055
Spain	....	349	231	6,745	5,546	5,038
Portugal	24	1,459	1,200	11,996	14,556	8,493
Italy	12,894	12,351	9,485	54,435	55,723	54,533
Greece, Turkey, and Balkan states	187	736	522	18,869	16,444	17,302
Morocco, Tunis, Algiers, and Tripoli	245	236	1	826	368	168
South Africa	....	....	....	1,430	....	....
United States and Canada (Atlantic)	63,129	61,551	58,321	123,476	99,586	106,665
United States (Pacific)	98	....	....	3,223	....	....
South America	727	1,041	369	1,833	2,095	469
Asia	487	922	135	1,033	1,524	576
Australia	120	108	32	1,281	2,639	1,150
Other countries	390	275	68	771	372	168
Total	163,253	149,996	137,220	400,082	356,164	335,548

* Tons of 13 Sicilian cantars.

Production, exports, stocks, and prices of Sicily brimstone.

Description.	1896.	1895.	1894.	1893.	1892.	1891.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Production,* official figures (in tons of 13 cantars)	....	342,150	355,023	363,414	362,948	336,975
Exports†	400,082	356,164	335,548	347,304	309,912	293,620
Visible stocks at the end of December at—						
Girgenti	78,987	85,311	78,412	115,235	102,731	65,200
Licata	58,415	61,785	50,928	50,512	30,385	17,692
Catania	42,800	49,154	53,846	38,077	33,423	33,077
Termini‡	4,892	....	....	....	....	....
Palermo	15,475	17,418	17,418	....	....	....
Total	200,569	213,668	200,604	203,824	166,539	115,969
Prices at Girgenti on the 31st of December, per ton of 1,000 kilograms, first cost: 1	*Lire.*	*Lire.*	*Lire.*	*Lire.*	*Lire.*	*Lire.*
Best unmixed seconds	89.90	55.00	61.60	75.50	81.00	125.00
Best thirds	88.90	52.20	55.00	65.60	75.50	118.90

* Quantities carried by rail from the stations in the interior to the ports, 303,830 tons of 13 cantars during the financial year July to June, 1895–96, against 287,840 tons in 1894–95.

† In the exports for the years 1891, 1892, and 1893, those from Termini and Palermo are not included, which, during 1894 to 1896, amounted to 6,000 to 13,000 tons per annum. To calculate the total consumption, 10,000 tons have to be added, representing the estimated yearly consumption in Sicily.

‡ Stocks at Termini for the years preceding 1896 are wanting, but were probably smaller.

Since the 1st of October, 1896, the export duty of 11 lire per 1,000 kilograms was abolished.

After a careful study of the above figures, I think the readers of this report will recognize the truth of the following deductions:

(1) The exports of sulphur from Sicily in 1896 were 44,000 tons in excess of 1895, of which 31,000 tons were exported from January to July. This increase is to be attributed to the exceedingly low prices which prevailed toward the close of 1895 and the beginning of 1896, at which figures the working of a majority of the mines was unprofitable. The increase of 13,000 tons in the last six months of 1896 is undoubtedly due to the sudden advance in prices, which induced consumers to lay in heavy stocks in anticipation of a further rise. These stocks, however, cost them relatively low prices.

(2) By reference to the table of exports, stocks, and prices for 1891–1896, it will be observed that, although prices steadily declined during those years, the production, as estimated by the mining bureau, frequently increased and never decreased. Stocks show a constant increase. These facts unquestionably prove that the cost of production has diminished, cheaper transportation has been gained by the construction of roads and railways, and improvements have been made in mining and smelting. It follows, therefore, that production at the lower prices has continued steadily because it was found profitable.

(3) The increase of exports during these years is natural, because the large production had to be sold, and this was made possible by the fall in prices.

(4) The Italian Parliament abolished the export duty of 8s. 6d. ($2.06) per ton with the object of favoring exports, since this duty increased the cost to the foreign consumer. The artificial advance which the Anglo-Sicilian sulphur trust wishes to establish is therefore in opposition to all the above facts, although the latter are responsible both for the decline in price for several years and the abolition of the export duty.

(5) It is stated that the production in 1896 shows an increase, and although the statistics are not yet published, there is the best authority for estimating it at about 385,000 tons. That there really was an increase is confirmed by the following facts: There were shipped in 1896, 44,000 tons more than in 1895, but nevertheless the visible stock in the ports of Sicily on the 31st of December, 1896, was only 18,000 tons less than on the same date in 1895. The difference of 26,000 tons must therefore come from an increase of production, which, in part at least, belongs to 1896, as some of this quantity may be sulphur stored in the mines in 1895 and not shipped promptly. Further, the quantity carried by rail from the stations in the interior to the ports was larger in the fiscal year 1895–96 than in 1894–95.

(6) Everything points to an increased production for 1897, and if the present prices check the consumption, stocks must necessarily increase during the year.

(7) Should Sicilian brimstone be partly replaced in the United States by pyrites for the manufacture of sulphuric acid, this will diminish our imports, which have been from 100,000 to 125,000 tons per annum, or 25 to 30 per cent of the total production of Sicily.

(8) For the above reasons, it seems more than doubtful if the Anglo-Sicilian sulphur trust can succeed in maintaining the prices at the present artificial point for any length of time. Its capital is £750,000 ($3,649,885) and it has purchased its brimstone at about 65s. ($15.80) per ton free on board Sicily, plus all the other expenses.

CHAS. M. CAUGHY,
Consul.

MESSINA, *March 29, 1897.*

EXPORTATION OF SULPHUR FROM ITALY.

According to statistics published by the general direction of the revenue, the sulphur exported from Italy to foreign countries during the year 1896 reached 3,563,700 quintals (1 quintal=220.46 pounds). The export in 1895 was 3,175,661 quintals; 1894, 2,990,896 quintals; 1893, 3,108,674 quintals; 1892, 2,910,307 quintals.

The exports according to countries, as compared with the preceding year, were as follows:

Countries.	1895.	1896.
	Quintals.	*Quintals.*
Austria-Hungary	146,067	180,222
Belgium	60,182	71,328
France	755,291	750,758
Germany	174,895	183,896
Great Britain	263,516	248,932
Greece	114,500	130,410
Holland	42,380	44,750
Portugal	71,356	111,922
Russia	180,004	167,042
Spain	120,620	82,140
Sweden and Norway	47,992	115,761
Turkey	54,752	60,134
United States	999,733	1,304,482
South and Central American States	65,527	27,213
Other countries	75,846	82,910
Total	3,175,661	3,563,700

LOUIS H. BRÜHL,
Consul.

CATANIA, *March 19, 1897.*

SICILIAN FRUIT INDUSTRY.

At first glance, the island of Sicily seems to be one of nature's most-favored places, endowed with all that would seem ample to make it one of the most prosperous countries on earth. The climate is mild and salubrious, even during the two or three months of hot weather in the summer.

Sicily possesses vast deposits of sulphur and asphalt, with which she supplies the world, besides other minerals, so far not developed. The atmospheric conditions favor the production, by natural evaporation, of enormous quantities of marine salt where the coast is flat.

Her soil is so productive that if it is cultivated in a proper manner (which is not done everywhere upon the island) it rewards labor with rich crops of nearly everything planted; especially is this the case, with the exception of the lava beds, around the base of that giant volcano, Etna, which is nearly 100 miles in circumference. The land is constantly enriched by the washings of the ashes and lava rocks, decomposing from age, from the great mountain and its surrounding, numerous foothills (ancient extinct craters), and irrigated by the melting snow which is seen on the peak of Etna until late in the summer.

Everywhere in this fertile belt, except where interrupted by lava streams or rocky hills, and along the seashore from Messina to Catania, the eye meets luxurious orchards of oranges and lemon trees, laden with their golden fruit and with blossoms which fill the air with fragrance; numerous groves of almond trees, which in full bloom appear to be covered with snow; the gnarled olive and the fig trees vie with each other even in rocky spots; along declivities, where it seems nothing could find root, the edible prickly pear (here called Indian fig) grows to immense size and supplies a cheap, refreshing and popular food for the masses and is also an important article of export to neighboring countries and to Upper Italy.

When one sees the abundant crop and watches the many ships of various nations (but none of the United States) which leave the ports laden with the products of the soil and of the mines, one would conclude that the inhabitants of this island must certainly be in a prosperous condition. Yet the very contrary is the case in regard to the masses. Sicily has suffered much during the past ages from the constant invasions and conquests by the various bellicose and covetous nations and from their misgovernment. The unequal distribution of landed property, the lack of energy, enterprise, and business tact among the well to do and large landholders, and the failure to properly cultivate idle lands, thereby giving more employment and producing more marketable commodities, are further reasons; also, the lack of education and the superstition among the poorer classes.

The sulphur industries of the island have suffered from a serious crisis during the past four or five years, but this deplorable condition has now been somewhat ameliorated by the formation of the Anglo-Sicilian Sulphur Company, whereby the producers were guarantied, for the term of five years beginning from the 1st of October last, an increase of price of about $1.50 per ton, and by which increase the poor mine laborers have also profited to some extent.*

While this sad state of affairs existed in the mining regions, affecting also the export merchants and thousands of laborers at the seaports, and thereby the numerous small traders in the cities, the fruit-growing districts were also threatened.

The fact that the United States House of Representatives was discussing the new tariff bill, which increases the import duty on oranges and lemons from 25 to 70 cents per box, created excitement and discontent all over the island. Everybody is interested and fears the loss of an important market, which, although prices have often been so low as to cause heavy loss to the honest exporter who works with his own capital, has taken a certain quantity. As the vast majority of the population of the island depend upon this industry for a living, it is certainly a matter of much importance to them to retain such a market as that of the United States.

On Sunday, the 28th of March last, mass meetings were held at Palermo, Messina, and Catania for the purpose of discussing this subject. At Catania, at 2 p. m., a procession of employees of the various packing establishments, including hundreds of women and girls, marched to the roomy theater Castagnola. An immense crowd was assembled, composed of representatives from all towns of the province and of the leading cities of the island, including Palermo and Messina. All classes were represented—the wealthy landowner, the nobleman, the banker, the merchant, the mechanic, and hundreds upon hundreds of anxious laboring men, women, and girls, who seemed to think their very existence depended upon the success of the meeting.

Referring to the new calamity which was threatening Sicily—the loss of the market which had received more fruit from Sicily than any other country—the speakers thought that this would eventually result whether the new tariff was adopted or not, as within a few years, California alone would be more than able to fully supply the United States. They thought, however, that the United States Government ought to have given Sicily a chance until that time arrived.

---

*The real increase in price, as compared with last spring (1896), is about $5 per ton more, or nearly 50 per cent.

It was suggested that efforts be made to relieve the present situation. To this end, the Italian Government, it was suggested, should be earnestly requested to lend its aid by prompt diplomatic action abroad and proper legislation at home.

The following were the chief points dwelt upon by the speakers: It is certain there is a limit to consumption in each market, more than a certain quantity can not be consumed at any price; but some countries do not buy as much as they could consume, on account of an excessive and unjust import duty; for instance, Russia consumes less than 500,000 boxes annually, while the United States receives about 3,000,000 boxes, and while Russia does not possess one single citrus tree, Russia charges an import duty of 300 per cent ad valorem on citrus fruit, yet she receives only about 8,000,000 lire worth of Sicilian products, while Italy purchases from Russia about 100,000,000 lire worth of products annually—mostly grain. Except on petroleum, Italy charges not over 50 per cent duty on these imports, while Italy produces considerable grain at home. If that enormous import duty were reduced, the export to Russia of citrus fruit could easily reach 1,500,000 boxes and more. To prove this, one need only consider the increased consumption in Austria, from less than 500,000 boxes to about 1,500,000 boxes per annum since the abolition, a few years ago, by that country of the import duty on citrus fruit.

It was thought that a good market for Sicilian fruit might be opened in Australia if a regular steamship line were established and possibly subsidized by the Government, and also if the British were induced to intervene and procure concessions in the way of abolishing or reducing the import duty.

But before looking abroad for increased openings for exportation, one speaker said they should commence in their own country. In Upper Italy, the consumption could be greatly increased if the excessive "consumption" taxes now charged by the cities were reduced to a reasonable rate. It was claimed that oranges and lemons retail in Milan, Florence, and even Rome, as well as in other cities in northern Italy, as high as in the United States, on account of this tax. It was thought that the high freight rates charged by the railroads should be reduced and the transportation facilities to Upper Italy speedily improved.

After a general review of the situation, the following resolutions were unanimously adopted:

> This meeting, in the interest of the citrus-fruit industry and of its commerce, prays the Government for assistance by all the means at its disposal during the crisis of a product which constitutes one of the greatest sources of income of our island.

The following measures are believed to be urgent and necessary: (1) Reduction to the legal limit of the consumption tax imposed by the various communes; (2) abolition, or at least reduction, of the import duties exacted by several foreign states, and especially Russia; (3) diplomatic action to avert the threatened enormous increase of import duty upon citrus fruit on the part of the United States; (4) relief from the register and stamp tax, to promote the formation of societies engaged in the commerce of citrus fruit and compounds thereof; action to prevent the adulteration of the essences of citrus fruit with aqua ragia (oil of turpentine); (5) reduction in rates of freight by the railroads in the transportation of citrus fruit, compounds thereof, and materials appertaining to the commerce in the same; careful supervision of the transit of the cars across the Straits of Messina and sufficient supply of special cars for the transportation of fruit; (6) concessions in the cultivation of tobacco.[*]

As before stated, enthusiastic mass meetings were held simultaneously at Palermo and Messina, and the same resolutions were unanimously adopted at all three places.

Exportation of oranges and lemons during the last four years, showing the proportion received each year by the United States.

Year.	Total export to foreign countries.		Quantity exported to North America.	
	Quintals.[*]	*Boxes.*[†]	*Quintals.*[*]	*Boxes.*[†]
1893	1,978,134	4,945,335	1,123,095	2,807,738
1894	2,148,011	5,370,028	1,103,998	2,759,995
1895	2,206,870	5,417,175	1,401,130	3,502,825
1896	2,372,359	5,930,898	1,114,647	2,786,618

[*] 1 quintal=100 kilograms=220.46 pounds. [†] Of 40 kilograms (88.184 pounds).

This does not give the entire annual production, as the shipments by rail and water to Italian ports are not included. A considerable quantity is also used in the manufacture of the essences and boiled lemon juice. The total annual production is now estimated to have reached about 7,500,000 boxes.

It has been suggested to me by California gentlemen interested in the orange and lemon industry that it might be of value to them to at times send a cablegram in relation to shipments or prices, but so far as my district is concerned this would be of little use, because the steamers, after leaving Catania, nearly always touch at Messina and Palermo, where they take the greatest part of their cargo and remain an indefinite length of time before leaving for the United States. As to prices, they are always—regardless of what the shippers and packers here are forced by competition to pay—regulated in the American markets, depending there greatly upon the state of the weather and the quantity received. The prices paid here of late by honest exporters for good fruit (or what it costs them per box, when selected and repacked) have been usually such as to cause them loss or leave them no profit. A choice box of fruit, either lemons or oranges, with fancy packing, costs the exporter from 8 to 10 lire ($1.50 to $1.85). The freight adds about 35 cents per box. Of course, there are many lemons shipped from here which cost not more than half of that, and some can be bought at 3 lire (56 cents).* The market for good oranges is stiffer, especially the Aderno and Paterno ovals and the blood oranges, which, if well picked and selected, cost the shipper, including work, not less than 8 lire ($1.50) per box.

---

[*] The manufacture of, and commerce in, tobacco and cigars is a Government monopoly, and every plant grown in the Kingdom is under its control.

Should the remedies suggested at the meetings be successfully applied and thereby the consumption in Italy increased, and, through a concession of the Russian Government reducing the import duty, the export to that country augmented from the present small quantity of less than 500,000 boxes to 1,500,000 boxes, as expected, and by means of a similar concession by Germany, the export to that country increased, the result would be that little would be sent to the United States.

In that case, there would doubtless be a considerable rise in transatlantic freight rates on other merchandise, for which the United States depends upon Sicily, *i. e.*, sulphur (crude and refined), asphalt, almonds, filberts, wine lees, etc., which the steamers have so far been carrying at a low rate of freight, while depending for their cargo upon citrus fruit.

LOUIS H. BRÜHL,
CATANIA, *April 6, 1897.* *Consul.*

CONVENTION AT PALERMO.

A convention composed of delegates from all the fruit-producing districts of Sicily, held for the purpose of averting, if possible, a disaster to the green-fruit industry of this island, which those engaged in the trade think would follow the increase of duty by the United States, has just been in session for three days at Palermo.

The convention on the first day devoted its time principally to sending telegrams to the King, wishing him long life and happiness, and to the Ministers of Foreign Affairs and Commerce to urge the Italian ambassador at Washington to make efforts to hold down the duty on fruit.

The second day, a cablegram having been received to the effect that a duty of three-fourths of a cent per pound would be imposed, was devoted to petitioning the Italian Government to enter into negotiations with the governments of various other countries, especially Russia, with the view of obtaining lower duties on green fruit. It was the belief of the delegates that this concession would be obtained from Russia if the Italian Government would decrease the duty on Russian petroleum.

---

* Prices paid for lemons upon the trees vary from 3 to 15 lire per 1,040, but this includes all lemons as they come, and the cost per box depends upon the number of choice ones which can be obtained; the rest is used for lemon juice and essences.

A portion of this day was given also to a discussion of the cultivation of tobacco in Sicily, to the restrictions placed upon it, and to petitioning the Government to take off the restrictions (which action would deprive the Government of a handsome revenue) in order that Sicily might produce the tobacco which the Government now finds convenient to import from the United States.

The third day was devoted to petitioning the Government to interest itself to procure the reduction of the octroi duty imposed by various Italian cities on fruit, it being the general opinion of the delegates that a reduction of said duty (it being as much as 50 cents per box in some cities) would be followed by a greater demand in Italian cities for Sicilian fruit.

Part of this day was given also to the discussion of a scheme for the manufacture of citric acid on a large scale in Sicily.

There is an incident in connection with this convention that is perhaps worthy of note, as a good deal of attention has been given to it by those in the fruit trade here. It seems, for some reason (probably through hearing some overconfident fruit shipper expatiating on the great good that would result to the trade from having a convention of so many prominent personages of Sicily) that the fruit packers and fruit-box makers, though they were receiving what they had received from time immemorial, and at a time when the shippers were losing on every box shipped, determined to demand an increase of their wages; failing in procuring this, they went on a strike. While the convention discussed and petitioned, the packers and fruit-box makers demanded higher wages. Some of the shippers were so greatly annoyed at the conduct of their workmen that they were slow to take them back when they applied, after the adjournment of the convention.

It was decided that another convention should be held in some other city in the autumn.

WM. H. SEYMOUR,
Consul.

PALERMO, *March 19, 1897.*

ANOTHER REMEDY FOR THE CRISIS.

All the Italian newspapers occupy themselves with this important question, and every day contain columns commenting upon the various causes and suggesting new remedies.

The rates of railroad freight are said to be higher from Calabria (opposite Messina) than shipment rates from Messina to New York; the consumption tax levied by the various cities in Upper Italy is said to be much too high; the excessive import duty (300 per cent) charged by Russia is demanded to be reduced in order to increase exportation to that country from 250,000 boxes to 1,500,000 or to 2,000,000. The proposed increase of import duty by the United States is much regretted, as that country has so far been the largest purchaser, and while there had been a hope that, through diplomatic action, this duty would be again reduced and that market saved, at least for a few years longer, this hope seems now about abandoned. Various methods for obtaining relief are suggested and discussed.

I send herewith a clipping (translated) from the Corriere di Catania, which gives a portion of the proceedings of the last citrus-fruit congress at Palermo a few days since. The resolutions there adopted, regarding the establishment of factories producing citric acid, etc., might be a hint to our producers in California and Florida to make use of their refuse fruit in a similar manner and thereby save their own market in the future.

LOUIS H. BRÜHL,
Consul.

CATANIA, *April 21, 1897.*

[From the Corriere di Catania.]

MANUFACTURE OF PRODUCTS DERIVED FROM CITRUS FRUITS.

It is held to be of the highest importance to the citrus-fruit industry and in the solution of the crisis by which it is harassed, to urge that the Government facilitate private initiative for creating great industrial establishments, with the object of transforming the crude and boiled lemon juice into citrate of lime, or crystallized citric acid, and other similar products. Thus our market will be relieved of a mass of refuse lemons, which, not being precisely the quality demanded by the consumer, tend, by the excess of supply, to depreciate also the good quality of lemons.

In Sicily, there are factories which are engaged in the manufacture of citrate of lime. For the production of citric acid, etc., a factory existed for some time in Messina, and another one, some years past, in Syracuse. These two industrial establishments have produced excellent crystallized citric acid, which has been shipped to several foreign markets, where it was favorably received.

Some time ago the manufacture in Sicily of crystallized citric acid was held to be impossible, and such prejudice tended to retard private initiative. To-day, however, it can be safely asserted, without fear of contradiction, that all the raw materials necessary to the production of citric acid are found in Sicily at the disposal of the manufacturer, including also the chalk, in which the province of Syracuse is rich. On account of these natural conditions, the industry should become a profitable undertaking.

We have no accurate information as to whether the factory at Messina conducted the manufacture of crystallized citric acid with profit, but the establishment is still putting its products on the market. It is also known that the factory at Syracuse furnished excellent products, and though it was necessary to stop the industry (on account of private reasons which it is not essential to explain) the poor success of the enterprise was not the cause.

Whatever may have been the results of the experiments up to the present time, made by manufacturers engaged in the preparation of citric acid, it is not to be denied that this industry, beginning in Sicily in the smallest proportions, has given results satisfactory to foreign markets. This is true in spite of threatened competition; and if large capital, capable of supporting the initial expense, could be invested in this way, Sicily would derive incalculable benefit and the crisis would be relieved.

We must add that the creation of great industrial establishments, if competently started and well conducted, would give profitable employment to capital and would mark that economical awakening which is the aim of all. And if we wish private enterprise to interest itself in the creation of industrial establishments, it is necessary that the Government lend all the assistance in its power to the initial steps.

Unfortunately, in Italy a new industry hardly springs up when the revenue collector, with his clutches, annihilates it. This illogical system discourages the capitalists, who, rather than place their capital so as to give new life to industry, content themselves—in order not to have anything to do with the tax collector—with investing their means at most modest interest, draining, in this way, the sources of public and private wealth.

In order that the manufacture of products derived from the citrus fruit in Sicily should develop in a manner to be profitable in itself and productive of wealth to the country, the assembly was urged to pass the following resolution:

"Considering that to solve the grave crisis, it would be efficacious to establish an industry which would withdraw from exportation the poorer qualities of the citrus fruit and put them to use in the manufacture of products derived from the raw material, the Government is prayed that whenever large establishments with that object in view are started, there shall be accorded to them immunity from taxes for a period of at least ten years, and that likewise, in justice and equity, the same favor be granted to similar establishments already existing; and

"Resolved, that a premium be awarded to that industrial establishment manufacturing citrus products which shall best correspond with the plans of the council in the creation of new factors of activity likely to relieve the crisis."

BICYCLE TRADE IN ITALY.*

I do not believe that, for the present at least, there could be opened a profitable market for American machines in Catania, for the following reasons: The city is crowded with cheap new and second-hand machines. There is not one really responsible and reliable dealer in bicycles. About a year ago, a man with some means brought here a considerable stock of bicycles and lost a good deal of money on them. He sold some of them on the installment plan. The first few payments were made, then the young men (mostly employees) either found out that they could not afford to continue the payments or got tired of the sport and left the machines on the hands of the dealer, who had not received enough money on them to cover the damages. The wheels were then rented until they were nearly ruined by inexperienced and careless riders and the craze died out. There are now very few machines in use, and, strange to say, they do not seem to be much in favor among the aristocratic classes and those able to buy good machines; in fact, I know of only five young men who own good English machines, and two of them are Englishmen.

---

*Copy of a letter from Consul Brühl, of Catania, Italy, to the Associated Trade and Industrial Press, dated March 17, 1897.

Ladies do not ride at all. My daughter, a girl of 14, was the only female person ever seen on a "bike" in this country, and she attracted so much attention thereby (causing large crowds of curious people to gather in the streets) that she discontinued riding. The ladies, as well as the gentlemen, consider it beneath their dignity to be seen riding on a bicycle.

Further than this, the roads around Catania are not encouraging for bicycle riders, being either too steep (especially toward Etna) or cut up by the two-wheeled carts of the freighters; all along the east is the seacoast, which is either lava or deep sand. There remains nothing but the city and the park.

NEW ADULTERANT FOR ESSENTIAL OILS.

I inclose a description of a new adulterant for essential oils, taken from the British Pharmaceutical Journal. It is known by the name of "Firenzia," being a product of the fir pine, presumably of the needles. At the present low price prevailing on the market for essential oils, there is no inducement to adulterate; but should there be a marked rise, this oil will undoubtedly prove a most dangerous adulterant.

It seems that there is already a quantity of this oil in this city, having reached here via one of the small towns, where it was sent to a fictitious address.

CHAS. M. CAUGHY,
Consul.

MESSINA, *March 31, 1897.*

[Extract from the British Pharmaceutical Journal.]

A NEW PRODUCT FOR REDUCING ESSENTIAL OILS.

This is a volatile oil offered for sale on the London market. It has a "fancy" name, is stated to be of vegetable origin, and to be specially manufactured for the purpose of reducing essential oils. It is also said to combine perfectly with both Sicilian and French essential oils. With the view of ascertaining its properties, a pint sample of the oil was obtained and submitted to analysis. The following results were arrived at: Specific gravity at 15.5° C., 0.869; optical rotatory power in tube of 200 mm., 59°; flashing point (Abel's method), 100° F.; solubility in three volumes of alcohol of specific gravity 0.82°, fairly soluble; residue on evaporation, trace.

Fractional distillation.—Percentage yielded between 155° and 160° F., 3.5; 160° and 165° F., 55; 165° and 170° F., 24; 170° and 180° F., 9; above 180°, 8.5.

There was no aldehyde present, and only a trace of the presence of ester could be discovered when the oil was subjected to saponification.

From the results obtained, this oil appears to have the characters of a lævo-pinene, such as is obtained from *Pinus sylvestris*, *Abies excelsa*, *Pinus maritima*, etc. The oil has a delicate odor not unlike that of some of the commercial varieties of pine oils, and I have found by experiment that considerable proportions of it may be mixed with oils of lemon and bergamot without the presence of the adulterant being detectable to smell or taste. Such detection would also be difficult by any of the ordinary physical tests (specific gravity, rotation, etc.) which are applied to essential oils, and the importance of having standards, such as the percentage of citral in lemon oil and of linalool acetate in bergamot, is emphasized by a consideration of the impunity with which adulteration can otherwise be conducted.

STEAMERS FROM VENICE TO EASTERN AFRICA.

By way of experiment, the Austrian Lloyd Steamship Company will inaugurate a new line of steamers to bring Venice into closer connection with ports on the eastern coast of Africa. The first voyage is to be made by the steamer *Polluce*, of 2,046 tons and 1,500 horsepower, with an average speed of 12 to 13 miles per hour. This steamer is to leave Trieste on the 21st instant and is scheduled to leave Fiume on the 3d of April (taking on board an agent of the company to report the result of the experiment), bound for Bombay and touching at the following ports: Lamu, Mombasa, Tanga, Pangani, Zanzibar, Bogamoya, Dar-es-Salaam, Kilva, Lindi, Ibo, Mozambique, Quilimane, Chinde, Beira, Inhambane, Delagoa Bay, and Durban (Natal). Freight will be accepted also for East London, Algoa Bay, Port Elizabeth, and Cape Town. The prices for passage are as follows: Second class, $144; third class, $57.60, including food, and $43.20 without food.

The following table shows the rates for freight for the different classes of merchandise:

From Trieste to—	Class of goods.					
	A.*	B.*	C.*	D.†	E.†	F.†
Lamu, Mombasa, and Zanzibar	$10.00	$12.00	$10.00	$8.50	$8.50	$8.00
Tanga, Pangani, Bogamoyo, Dar-es-Salaam, Kilva, Lindi, Ibo, Mozambique, Chinde, Quilimane, Beira, Inhambane, Delagoa Bay, and Durban (Natal)	11.00	16.00	12.50	10.00	10.00	10.00
East London	20.00	22.00	21.50	15.00	15.00	14.50
Algoa Bay and Port Elizabeth	21.00	23.00	22.50	16.50	16.50	16.00
Cape Town	22.50	25.00	24.50	17.50	17.50	17.00

* Per 1,000 kilograms (2,204.6 pounds). † Per cubic meter (39.37 inches).

CLASSIFICATION OF GOODS.

Class A.—Arsenic, lead in pigs, white lead, cement, iron plates, nails, steel, potatoes, lithographic stones, bricks for construction, sheet iron; iron rods, rails, and wire; steel wire, glass panels, rosin, marble of all kinds in block and rough, grindstones, oil stones, millstones, tar, paving stones, potash, slate pencils, ammunition, sulphur, steel, clay, coal tar, vitriol, zinc.

Class B.—Beer, tin, lead pencils, butter, iron safes, printing ink, iron fence wire, ironware, steel ware, vinegar, colors, grease, woolens and worsteds, tissues, glass beads, glassware, cheese, candles, kitchen utensils, tin articles, cast iron, copper wire, glue, mineral waters, needles, fruits, oil, quicksilver, soaps, ropes, sealing wax, playing cards, earthenware, ink, wine, wax.

Class C.—Paper (on cigarette and tissue paper an extra freight of 30 per cent will be charged), cardboard, celluloid, flour, ceresia.

Class D.—Whisk, coffee surrogate, chemicals, wicks for lamps, gold and silver wire articles, skins, tissues (except woolens and worsteds); hemp, flax, and jute tissues; india-rubber articles, glassware, lumber, wooden articles, hops, vegetables, straw and felt hats, buttons, wicker articles, cork and cork articles, hardware, lamps, leather articles, leather, machinery not over a weight of 1,000 kilograms (2,204.6 pounds) and not exceeding 2 cubic meters, furniture, sewing machines, perfumery, umbrellas, shoes, toys, hosiery, carpets.

Class E.—Matches of all descriptions.

Class F.—Wooden poles and blocks not exceeding 4 meters (4 yards 13 inches) in length; over that measure, 25 per cent more; also, objects of value, as watches, amber articles, jewels, precious stones, silver and gold ware, silk, silk stuffs, scientific instruments, antiquities, objects of art when the declared values amount to $5 per kilogram.

H. A. JOHNSON,
Consul.

VENICE, *March 22, 1897.*

AMERICAN DRUG PREPARATIONS IN FRANCE.

Inquiries having been made at this consulate by some of the leading druggists of central France concerning certain American preparations of drugs, a few samples were shown to them, and they expressed themselves satisfied and well pleased with what they termed "a triumph of American progress." It seemed to these gentlemen that an excellent opportunity for the introduction of large quantities of these goods from the United States presents itself.

Medical science has made wonderful progress in France, and it is true that there are no greater savants in the medical and pharmaceutical professions than some of the French physicians and pharmacists; but outside of Paris, except in one or two of the principal towns, there has been little or no progress made in the preparation of remedies. Quinine and similar powders are given in old-fashioned capsules made by hand; these are larger than an American cent, and are difficult for children and certain invalids to swallow; besides, the process of making them is long and tedious, and the dose is not regular, because every capsule is not weighed in the course of its preparation.

Many of the new remedies, although they are well known and appreciated by physicians, fail to become popular because of the difficulty in preparing them. The provincial druggists are often unable to procure these drugs except in a crude or unprepared state. The French laws regulating the sale of liquid poisons are exceedingly strict, and the danger of taking an overdose prevents many persons from using these remedies unless prescribed by a doctor. No physician can prepare his own prescriptions if there is a pharmacy in the town. A pharmacist must hold a diploma from a Government faculty in order to make up prescriptions. An exception to this rule is made in communes having no drug store within a radius of 6 kilometers (about 4 miles) of the patient's residence. As the number of houses outside this regulated distance is very large, it is often embarrassing to the physician and the delay in going so far is frequently dangerous to the invalid. To obviate this delay, the physician carries a few drugs in general use with him, but owing to their volume and the difficulty of arranging them conveniently in a portable case, the doctor frequently lacks the medicine required to relieve the patient.

To aid this class of physicians and invalids and to see what could be done, samples of American compressed tablets have been shown to a few druggists and doctors, who immediately conceded that these preparations were put up in the most compact and convenient manner possible, and that such goods were much needed in France, because a larger variety of remedies could be carried and no time would be lost in making up prescriptions, nor would there be any risk of overdosing.

The following list of drugs are those most usually prescribed in this country: Sulphate of quinine, opium, nux vomica, dover's powders, lithia, chlorate of potash, bromide of potash, bromide of sodium, salicylate of soda, iodide of potash, and others that enter into the daily use of a physician having a general practice. Rectal and vaginal suppositories of nearly every description are also much employed.

The drought of 1893 lessened the number of cattle all over Europe, and since then, sugar of milk is very high in price. This commodity could be advantageously exported to France.

A certain quantity of proprietary medicines might find a ready sale if put upon the market in a wise manner, but it will be absolutely necessary to have the formulas printed on every bottle. Such common preparations as seidlitz powders and citrate of magnesia, and heavy drugs like glycerin, borax, potash, cod-liver oil, borate of soda, caustic soda, and alkalies are used in large quantities in this country.

Mineral paint, adapted for iron work, is largely used.

The French druggists have been deterred from using American drug preparations because the weights and measures employed by the exporters from the United States are not the same as those in use in France; the decimal system is the only one known here—grains, drachms, and ounces are unknown quantities to the laity, and the profession will not take the trouble to translate the weights into grams and milligrams, so as to find out what dose to give.

The French admit that the manner of putting up drugs in the United States is greatly superior to that of other countries, but the system of foreign weights, measures, and currency forms a barrier to their introduction into this Republic.

All drugs should be put in neat, but not too large, packages; the matter of color and taste are important items to take into consideration, because the masses are not accustomed to taking medicine without a doctor's prescription, as are the people of the United States.

If a general depot of American drug preparations were established in Paris where the articles could be seen and examined, it would greatly aid in the introduction of the goods.

A large wholesale druggist remarked to the writer recently that "the only thing lacking to make the enterprise successful was the initial step to bring American drug preparations into the European markets."

WALTER T. GRIFFIN,
Commercial Agent.

LIMOGES, *March 19, 1897.*

SWISS WATCHES FOR THE UNITED STATES.

I transmit herewith a table showing the exportation of watches and watch movements from Switzerland to the United States from 1886 to 1895, inclusive. The figures for 1896 are not yet announced.

It is not my purpose to advance any theories or opinions of my own as to the expediency of substituting a specific for an ad valorem tariff on watches and watch movements, but inasmuch as there is to be a revision of the present tariff, the accompanying figures will be worth considering when Schedule C is under discussion.

It will be seen from these figures that the average value of silver and metal watches and watch movements has steadily decreased, and that consequently the returns from the tariff, as assessed under the ad valorem system, have also steadily fallen off. But if there had been a specific duty on silver and metal watches and watch movements, what would have been the result? For example, take the year 1895. There were exported to the United States during that year 115,788 silver watches, of a value of $207,922.57; 128,976 nickel watches, of a value of $156,866.73; and 268,857 movements, of a value of $369,721.80; total, $734,511.10.

The duty on this, at 25 per cent, would be $183,627.77; whereas, on the other hand, if a specific tariff of, say, for example, $1 had been levied on the silver watches and 60 cents on metal watches and watch movements, the result would have been a revenue of $354,487.80.

It may be claimed that this duty would be virtually prohibitive, but there are manufacturers here who contend that it would not. If, however, it should largely reduce the importation of cheap watches to the United States, then the American watch manufacturers, who have to compete principally with the cheap watches and watch movements, would have the protection they seek.

Under the ad valorem application of the tariff, the average valuation of gold watches has steadily increased; but, if there had been a specific tariff of, say, $5 or $6 on gold watches, which could not be regarded as excessive, the revenue would have been larger.

But aside from any consideration of the tariff question, these figures may be of interest to watch manufacturers and dealers as showing the details of exportation from this country to the United States during the past ten years.

Exports of Swiss watches to the United States.

Year.	Gold watches.			Silver watches.		
	Pieces.	Value.	Average.	Pieces.	Value.	Average.
1886	31,003	$377,277.75	$12.17	90,937	$340,220.60	$3.74
1887	35,258	477,083.07	13.53	104,513	376,149.66	3.60
1888	27,566	408,045.04	14.80	95,713	381,814.60	3.99
1889	21,918	251,442.72	13.32	105,415	361,520.65	3.43
1890	18,457	169,064.14	9.16	133,960	411,637.92	3.07
1891	16,406	177,361.79	10.81	132,124	407,661.55	3.08
1892	10,186	160,542.61	15.76	132,180	344,505.58	2.60
1893	10,011	155,628.25	15.54	109,100	256,320.02	2.35
1894	4,966	85,238.84	17.16	76,293	150,131.61	1.97
1895	7,356	143,858.53	19.55	115,788	207,922.57	1.79

Exports of Swiss watches to the United States—Continued.

Year.	Nickel watches, etc.			Finished movements, with cases.		
	Pieces.	Value.	Average.	Pieces.	Value.	Average.
1886	161,318	$358,046.65	$2.22	40,292	$114,075.35	$2.83
1887	248,300	530,918.10	2.14	81,309	204,609.53	2.51
1888	245,586	510,432.19	2.07	119,269	258,562.68	2.16
1889	214,716	367,117.26	1.56	205,895	437,520.96	2.12
1890	251,030	378,463.35	1.51	222,322	388,958.69	1.75
1891	270,498	414,100.22	1.53	200,325	416,668.28	2.08
1892	212,290	318,364.50	1.50	183,762	400,285.66	2.07
1893	183,499	283,472.03	1.54	186,440	376,506.71	2.00
1894	174,350	227,123.94	1.30	182,610	278,132.68	1.52
1895	128,976	156,866.73	1.21	268,857	369,721.80	1.37

BENJ. H. RIDGELY,
Consul.

GENEVA, *March 25, 1897.*

PROFESSOR KOCH'S NEW TUBERCULINE.

An article written by Prof. Dr. Robert Koch, entitled "New tuberculine," which appeared in the Deutschen Medizinischen Wochenschrift of March 31, gives a detailed account of a new therapeutic method of treatment for phthisis. The following report consists of a condensation of this article, and a few comments upon its reception in German medical circles. A complete copy of the article of Dr. Koch can be obtained in pamphlet form by application to the publisher, Georg Thieme, in Leipsic.

Dr. Koch states that the use of bacteria and their products for prophylactic and therapeutic purposes is to render the system immune to their effect, and that such a result is apparently impossible in phthisis, because this illness may continue for years without rendering the system less sensitive. Even in cases of complete cure, the patient, instead of becoming immune to the disease, is rendered more liable to a fresh attack. Dr. Koch found, nevertheless, in his experiments upon guinea pigs, as well as in cases of miliar consumption affecting human beings, indications that a certain immunity to the disease can exist under special conditions. During a certain stage of the illness, it is generally the case that the bacteria, which have been extremely numerous, disappear, and it is only by careful search that any trace of them can be found. This is extremely remarkable, as phthisis bacteria injected into the body experimentally are absorbed very slowly. It would appear that, in such cases, a certain immunization has been produced that is purely bacteriological, but, unfortunately, this condition is produced too late to be of any benefit to the invalid. This fact led Dr. Koch to search for a method of producing immunity in an earlier stage of the disease. All his attempts to cause the absorption of the unchanged living or even dead bacteria, in any quantity, were no more successful than the efforts of other experimenters. It was only by treating the bacteria with dilute mineral acids or with strong alkalies heated to the boiling point that they could be so changed as to be absorbed by the system in important quantities. As the system is not rendered immune by this process, it is to be supposed that too great a change is effected in the composition of the bacteria by the chemical treatment to which they have been subjected.

As Dr. Koch failed to produce satisfactory results in this way, he directed his efforts to the extraction of such component parts of the bacterium as could be absorbed. These efforts resulted in the discovery of "tuberculine," a substance which has the valuable quality of producing characteristic symptoms when injected in extremely small quantities, and thus render it possible to detect the disease in its earliest stages, when it can be most easily cured. Dr. Koch insists that the value of tuberculine for purposes of diagnosis has only been confirmed by time, and calls attention to the fact that it is in general use for diagnosis in cases of phthisis affecting cattle. Dr. Koch states that the theory that the bacteria of consumption were rendered mobile by the use of tuberculine and could be carried to healthy parts of the body has been proven to be erroneous by the results obtained in thousands of injections made upon cattle. He has himself made use of tuberculine with over a thousand consumptive patients without discovering any reason to believe that injections of tuberculine tend to cause the spread of phthisis, and he maintains that tuberculine should be used for the diagnosis of consumption with human beings as well as for diagnosing tubercular diseases of cattle.

An unmistakable improvement was shown after the first injections of tuberculine, and it was consequently used for therapeutic purposes as long as it continued to produce good results. It can not be used indefinitely to advantage, as the system becomes immune to its effects after a certain time and can remain so for months. Relapses occur when the remedy loses its power, but after the treatment with tuberculine has been discontinued for some time, it can again be employed with good results. Dr. Koch maintains that, in cases of consumption where no complications exist, a decided improvement can be produced by the use of tuberculine. As the bacilli of tuberculosis are not affected by injections of tuberculine, it is evident that the only effect of this remedy is to protect the system against the toxic properties of the bacilli.

After the discovery of tuberculine, Dr. Koch again turned his attention toward the discovery of a substance that should render the system immune to the bacterium itself. Owing to the important influence that it exerted upon the further labors of Dr. Koch, an unsuccessful experiment is described, the investigation of which lasted over a year. The substance employed was an extract of normal natron lye, which is designated as tubercle antitoxin. It was found that small injections of this substance produced results analogous to those of tuberculine, but that the effects lasted somewhat longer and were more certain. Larger doses produced abscesses at the place where the injection was made, that could only be explained as an effect of the dead bacilli contained in the preparation. The bacteria were completely removed by filtration, and it was found that no more abscesses were produced, but that the effects of the injections were in no wise superior to those of tuberculine. This discovery led Dr. Koch to the conclusion that as an abscess is invariably caused by a certain dose, it is impossible to render the system immune to the bacilli of tuberculosis by hypodermic injections of the unchanged bacilli.

The subsequent efforts of Dr. Koch were therefore directed toward the discovery of a method of breaking up the bacilli by mechanical means in order to facilitate their absorption. He had discovered in previous experiments that the bacteria of phthisis consist of two peculiar chemical components which belong in the category of undersaturated fatty acids. One of these acids is soluble in dilute alcohol, and is easily turned to soap by contact with natron lye; the other is only soluble in pure boiling alcohol or ether, and is very difficult to convert into soap. These fatty acids are shown by microscopic examination to form a cohesive and protective layer around the bacillus that prevents its absorption. For some time, the various attempts to destroy this protective coating failed utterly. It was only when the cultures were well dried and beaten in a mortar for some time that the number of bacilli commenced to decrease. To get rid of those that remained, Dr. Koch placed the substance that had been beaten in the mortar in distilled water, and subjected it to the action of a powerful centrifugal separator. The products obtained by this process were a white, opalescent, and completely transparent fluid, which contains no bacilli, and a slimy, viscous sediment. This sediment is subjected to the same treatment as the bacilli, and the above-described process is repeated until the entire sediment is dissolved into a series of clear fluids. Dr. Koch experimented with the fluids obtained, first upon animals and then upon human beings, and found that the first fluid possessed different qualities from the fluids that had been obtained by a repetition of the treatment in the centrifugal separator, all of which possessed identical qualities.

The fluid that has been subjected to the centrifugal separator once is designated by Dr. Koch as tuberculin O or TO. The different fluids obtained by repetitions of the original process are designated as tuberculin R or TR.

The properties of tuberculin O are extremely similar to those of tubercle antitoxin, except that it causes no abscesses. Tuberculin R has the important property of rendering the system immune to the different components of the bacillus of phthisis. Dr. Koch insists that, owing to the importance of this quality of TR, he has demonstrated it beyond the peradventure of a doubt by a great number of experiments. That TR contains all the substances necessary to render the system immune to the bacillus of phthisis would seem to be established by the fact that a person who has been rendered immune to TR is not affected by large doses of ordinary tuberculine, or TO.

In order to produce any curative effect with tuberculine, tubercle antitoxin, or TO, it is essential that the patient should react, but this is not the case with TR. Reactions can be produced, but they are not essential to the therapeutic effects of TR, and Dr. Koch states that he has endeavored to avoid their occurrence by commencing with small doses, which are gradually increased. In this way, the system is rendered immune to TR, and, according to the belief of Dr. Koch, to the bacillus of tuberculosis.

The use of the preparation, as advised by Dr. Koch, is extremely simple. It is injected in the back hypodermically in the same manner as the original tuberculine. The fluid contains 10 milligrams (0.154 grain) of solid substance per cubic centimeter, and is prepared for use by dilution with a solution of chloronatrium (physiologischer Kochsalzlosung). The first dose is only one five-hundredth of a milligram, which is so small that it is exceptional if any reaction is produced; if it should be, it is necessary to dilute the dose still more. The injections should be made every second day, the dose being so gradually increased as to avoid any rise of temperature greater than half a degree. Increase of temperature caused by the injections should be allowed to subside before new injections are again made. Dr. Koch raised the dose to 20 milligrams (0.308 grain), and then in case no reaction took place, he either discontinued the treatment or repeated the injections at longer intervals.

The treatment of the malady should not be attempted when the illness has reached a too advanced stage. Such small doses are given at first that no important immunization is to be expected; it is only when doses of from one-half to 1 milligram are used that the unmistakable effects of the immunization are shown. Consequently, an invalid whose condition indicates that he has only a few months to live can derive no benefit from the treatment. It is also useless to treat invalids suffering from complications, as, for instance, when streptococci exist. Such a condition is indicated by the temperature, and Dr. Koch's experience indicates that it is useless to treat patients whose temperature exceeds 38°. He has experimented with the preparation upon a large number of suitable patients, particularly those affected with lupus, and, in many cases, the condition of such patients has been so far improved that they might be considered cured, though he does not claim an absolute cure, since sufficient time without relapse has not passed to fully warrant such an assertion. No disquieting nervous symptom or other injurious effect that could be ascribed to the use of the preparation has been observed.

In the experiments upon animals, a large number of guinea pigs were rendered immune to TR, and then injected with living, virulent bacilli a number of times, but no trace of these bacilli could be found when the animal was dissected.

Dr. Koch closes his article by stating that he is not willing to affirm that his treatment of tuberculosis by the gradual increase of hypodermic injections of TR is the best possible method. Other methods, such as a combination of TO with preparations of serum that are obtained by the use of TO or TR, may produce even quicker and better results, and experiments in this line are now being made. But he believes himself to be justified in declaring that no improvement in the preparations is to be expected. They consist of the products of fresh, highly virulent bacilli which have just been killed and these products have been rendered soluble without any chemical change.

The attitude generally assumed by medical authorities in this country is extremely conservative. Great interest has been aroused and it is evident that sanguine anticipations are entertained, but the article of Dr. Koch is not considered sufficiently precise or exhaustive to establish the curative importance of the new remedy. The short article in which Dr. Koch announces his discovery leaves great scope to future investigation. It contains no precise information as to the nature of the special cases treated, of the length of the treatment, or of the condition of the patients at its termination. In cases of lupus, even experienced specialists have often made grave errors, and a knowledge of the period of time that has elapsed since cicatrization is essential to decide whether fresh ganglia are liable to occur. No exhaustive description of the exact manner in which the remedy is to be employed or of the course of malady under treatment is given to the medical world. Careful investigation must be carried on for months in hospitals and clinics before absolute conclusions can be reached as to the value of the new remedy.

Dr. Virschow and other eminent specialists have maintained that the use of the original tuberculine for therapeutic purposes is liable to aggravate instead of improve the condition of the invalid, and the use of this preparation has been practically abandoned, except for cattle. Even if the disease is not spread by this treatment to healthy parts of the body, as is maintained by Dr. Koch, the violent reactions, producing fever, malaise, and muscular pains could easily be of such serious injury to the patient as to outweigh the diminished susceptibility of the system to the toxin of the bacilli. According to Dr. Koch, no such risk exists in the use of TR, as the system can be rendered immune without causing violent changes of temperature or other disquieting symptoms; in fact, most of the patients gained in weight from the commencement of the treatment. His experiments upon animals would seem to show conclusively that the new remedy does possess important immunizing properties. If this be true, and if TR can be used without otherwise aggravating the condition of the invalid, its therapeutic value must be accepted. Owing to the length of treatment necessary to render the system immune and to the numerous complications incident to the disease, the value of the new remedy as a cure for tuberculosis can only be established by its use on a large scale.

The general consensus of medical opinion in this country does not seem to favor the use of Dr. Koch's new remedy in general practice until further investigation by leading specialists shall have determined its precise effects. The injurious consequences incident to the premature introduction of his first tuberculine should act as a warning against the precipitate general use of the new preparation; but Dr. Koch has produced results that render it incumbent upon American specialists to lose no time in making themselves acquainted with its properties. The new preparation TR is produced commercially in Germany and will be sold by the agents of the manufacturers in the United States.

An eminent specialist, Prof. Hans Buchner, who succeeded as early as 1893 in breaking up tubercle bacilli by mechanical means, states his conviction, in an article in the Münchner Neuste Nachrichten, that, as the preparation consists of the practically unchanged components of the bacillus, there is every reason to believe that it has the power of rendering the system immune. He does not, however, accept Dr. Koch's statement that no improvement is to be expected in the preparations of tuberculine. He bases this opinion upon the fact that he has broken up the bacilli of tuberculosis by friction and by subjecting them to a subsequent pressure of from 400 to 500 atmospheres. He believes his process affords less risk of chemical change to the bacilli, to be less troublesome, and less dangerous to the manufacturer. The medicinal properties of the substance obtained by Professor Buchner are being tested by Messrs. Hahn and Bulling, of Reichenhall.

DEAN B. MASON,
Vice and Deputy Consul-General.

FRANKFORT, *April 12, 1897.*

WHEAT AND RICE IN INDIA.

WHEAT.

The latest report on the wheat crop of the season 1896–97, issued by the statistical bureau, is dated Calcutta, December 24, 1896, and is as follows:

The failure of the autumn rains everywhere prevented the preparation of land for wheat and interfered with sowings, except on irrigated land. In consequence, there has been a contraction of the area under wheat, greatest in central and western India, but large also in northern India. Prospects appeared very bad until the third week of November, when some rain fell, which improved the condition of the standing crops in some degree and permitted additional land to be sown. At present, the prospects of the growing crop are good—better in northern India than elsewhere—but the usual winter rains are now anxiously looked for.

The subjoined paragraphs summarize the reports which have been received:

In the Punjaub, the area estimated to have been placed under wheat up to the end of November is 5,346,700 acres. This is upwards of 1,500,000 acres, or 22 per cent, less than the area finally estimated to have been placed under wheat last year, and that area was itself a little under the average. Sowings, however, have been continued and can be made until the end of the present month.

In the Northwest Provinces and Oudh, the area sown is reported to be 30 per cent below the average. The average is about 4,750,000 acres, and consequently the area put under wheat in these provinces would seem to be about 3,250,000 acres. The area cropped last year—which was also a poor year—approximated 3,750,000 acres.

In both the Punjaub and Northwest Provinces, the conditions are very similar. The early cessation of the monsoon rains interfered with sowing generally, except on irrigated lands, and prospects appeared to be of the worst until some rain in the third week of November helped the crop already sown and permitted additional sowing. On the restricted area in which wheat is being grown, prospects are, on the whole, good at present, especially in irrigated land, but the position depends upon the presence or absence of the usual winter rains. Without these, the crop on unirrigated land will be practically lost and on irrigated land it will be injuriously affected.

In the Central Provinces, the seasonal conditions which affected the sowing of wheat in northern India have operated with even greater intensity. The area sown is estimated not to exceed 1,750,000 acres, a figure which contrasts unfavorably with the bad season of 1895–96, when over 2,500,000 acres were sown, the average of preceding years having been 4,000,000 acres. The decline is most marked in the northern districts and in Chhattisgarh. In the rest of the provinces, the area sown is from 65 to 75 per cent of the average. In these provinces, as in northern India, the rain which fell in November was very useful, and the prospects of the standing crops are in the main fair to good, but the winter rains are wanted.

The reports from Bombay state that sowings were still proceeding in various places up to the 10th instant, but that it seemed unlikely that the area sown would exceed 1,500,000 acres, being half the average. The rain which fell in November did some good in various places, but it was unequal, and the yield generally will probably be very low unless good rain should fall very soon. The failure is greatest in the Deccan districts, where the area sown was only one-fifth of the average and where the rain in November having been light, its beneficial effect was smallest. The Karnatak is in somewhat better condition than the Deccan, the area sown there in British districts being one-fourth and in the native states one-third of the average. In Gujrat, the area is about 26 per cent below the average. Sind is better off than any other part of the presidency, or, indeed, of the whole country, the area sown there being only 9 per cent below the average and much in excess of last year's area, but that was not a good year for wheat in Sind.

RICE.

The latest general memorandum on the rice crop in Bengal, Lower Burmah, and Madras for the season 1896–97, published by the statistical bureau, Government of India, is dated Calcutta, December 21, 1896, and is given below. Other districts of India where the rice crop is of comparatively less importance are not included in this report.

General.—In Lower Burmah, the area under rice is much larger than the average, and the crop which is now being harvested is excellent. It is fortunate that Burmah will have a large exportable surplus, for in the other two great rice-producing provinces the condition of the crop is very bad, worse in Bengal than in Madras. In the Bihar districts, north of the Ganges, the crop is almost a complete failure, and in Madras the crop is very poor in the northern coast districts and in those of the Deccan and Carnatic.

The following paragraphs summarize the local reports:

Bengal.—In the first memorandum on this crop, issued on the 23d of October, it was stated that in Bengal the weather was on the whole unfavorable, insufficient rain alternating with floods, but that good rain in the middle of September had slightly improved the prospects of the crop. The bhadoi (or autumn) rice crop in Bengal, which is sown in May and mostly reaped about the middle of September, covered an area of 7,128,500 acres. This was slightly more than the area sown in 1895, but materially less than the average area. The outturn also was bad, being estimated at not more than about 59½ per cent of a full average.

Poor as was this result, it was better than the estimated yield of the great winter rice crop. For this crop, the weather has been unfavorable throughout. Heavy rain was wanted for it in July, but it was generally deficient except in Orissa, where it was excessive and damaged the crops. In August, the fall of rain was again insufficient. In September, heavy rain is more necessary for the crop than in any other month, but it was entirely insufficient in Bihar, and after the middle of the month and in October there was very little rain anywhere. The results of this premature cessation of the monsoon are apparent in the table appended to this memorandum. The area sown is over 1,000,000 acres less than in 1895 and over 3,250,000 acres less than the average.

On this contracted area, moreover, the yield is estimated at less than half (46 per cent) of a full average crop. In only one district of the province has the crop amounted to 75 per cent. In the Bihar districts, north of the Ganges, the crop is particularly bad, Saran, Champaran, and Muzaffarpur reporting yields of under 8, 22, and 19 per cent, respectively. In most other places, it ranges from rather less to rather more than half a crop. The whole yield of the winter crop for the province is estimated at 150,000,000 cwts. (8,400,000 tons*) of cleaned rice, the estimated production of 1895 having been 272,000,000 cwts. (15,232,000 tons). This is a reduction of 122,000,000 cwts. (6,832,000 tons), or about 45 per cent.

Madras.—The report is the first forecast of the rice sown up to the end of November in villages held from the Government direct, being about two-thirds of the presidency. In these tracts, the area under rice occupies just a little less than 5,000,000 acres. According to the returns, this area is about 241,000 acres less than the area of 1895, but the return for 1895 was defective, and the local authorities report that the reduction probably amounts to 372,000 acres.

---

* Tons of 2,000 pounds.

The area sown is a little larger, on the whole, than the average (though, it would seem, the increase is to some extent only apparent, being due to prompter reporting), an increased area having been sown in some of the districts in the extreme south of the peninsula, but in other places, especially the Deccan districts, there has been a material reduction, due to the unfavorable monsoon, as in other parts of India. In Ganjam and Vizagapatam, the estimated yield is 44 per cent of a full crop. In the Deccan districts, the yield is estimated at 56 per cent, at which figure it is also stated for the Carnatic, but here there has been an improvement recently. Elsewhere the yield is estimated at from 62½ to 75 per cent, and for the province generally it is stated at about 69 per cent of a full crop.

Burmah.—The conditions in this province contrast agreeably with those reported from the other two great rice-producing provinces. Here the season has been favorable, and the crop is, on the whole, excellent. In only three districts—Akyab, Prome, and Thaton—is the crop less than a full crop, and even there it is estimated at seven-eighths. In five districts, the estimate is for 106 per cent, and in the remaining six districts a full crop is reported. The estimate for the whole province is for a full crop, and the quantity available for export from Lower Burmah is estimated at about 30,500,000 cwts. (1,708,000 tons) of cleaned rice. A substantial proportion of this quantity will doubtless be exported to Upper Burmah and to Bengal, to supplement their deficient supplies.

Assam.—A report has been received that the rainfall was deficient and unfavorable for sowings, which were smaller than last year and than the average. The prospects of the standing crops are said to be fair.

Estimate of the rice crop for the season 1896–97.

Districts.	1896.	1895.	Average.	Estimated outturn, 100 representing an average yield.	
				1896.	1895.
Bengal:	*Acres.*	*Acres.*	*Acres.*	*Per cent.*	*Per cent.*
Autumn rice	7,128,500	7,045,300	7,439,300	59½	78
Winter rice	29,341,600	30,402,300	32,634,100	46	80
Madras*	4,986,200	5,227,300	4,812,700	69	72
Burmah†	5,240,416	5,068,147	4,577,800	100	94
Total	46,696,716	47,743,047	49,463,900	…………	…………

* Government villages, being about two-thirds of the presidency.

† The fourteen chief rice-producing districts in Lower Burmah.

OTHER FOOD CROPS.

The only reports on the condition of food crops received in the office of the statistical bureau, Government of India, refer to the crops of wheat and rice, hence no general official information in reference to other food crops is available.

AUTUMN FOOD CROPS OF BENGAL.

These include paddy, jawar, bajree, mandua, indian corn (maize), and other cereals and pulses.

The total area cultivated with autumn food crops of all kinds in Bengal in 1896 is estimated at 12,269,800 acres, against 12,098,400 acres in 1895.

The yield of these food crops has not, perhaps, exceeded 60 per cent of a full average crop.

S. COMFORT,
Consul.

BOMBAY, *February 10, 1897.*

OPENING TO TRADE OF THE WEST RIVER, CHINA.

The opening of the West River, on which is situated the great city of Canton, to foreign trade has always been greatly desired by the foreign merchants doing business with southwestern China, more particularly by the residents of Hongkong, which lies at the mouth of this great river.

This legation has had considerable correspondence with various commercial bodies on this subject. It is understood here now that, through the efforts of the English minister, this great stream has been finally ordered to be opened to the commerce of the world. As no decree has been issued, I am unable to give the details of the conditions under which the river has been opened, but I will forward a copy thereof as soon as it can be procured.

A brief review of this subject may prove interesting to the Department and to American merchants.

The attention of foreigners and particularly of the merchants of Hongkong was directed many years ago to the possibilities of trade along this great and important waterway of the two Kwang provinces. As far back as 1859 it was surveyed up to Wuchow-fu, by Lieutenant Bullock, of Her Majesty's navy. Journeys were made over it by missions dispatched by the Hongkong Chamber of Commerce in 1870 and in 1885 and favorable reports were made.

The opening up of the West River has become a necessity for the further extension of foreign trade. In the absence of water carriage, the cost of transport, which in many districts is limited to porterage by coolies, confines trade in narrow limits. Further restrictions are found in the numerous likin and taxing stations which are located everywhere in the inland districts. At this time the foreign water-borne trade of South China is confined to a few ports, consisting of Fuchau, Amoy, Swatow, Canton, and Pakhoi. The great inland provinces of Kwangsi, Yunnan, and Kuchou have hitherto been practically inaccessible to foreign trade. Canton is the natural gateway of trade to southwestern China, but this trade is greatly restricted owing to the barriers to inland transit above stated. This trade is now also threatened with diversion by the new route opened up by the French through Tonkin to Yunnan. To encourage the use of this route, the French Government has reduced the tariff on goods in transit to a nominal rate. The trade on the Si Kiang, or West River, will now be opened to steamers of all nations. Our kerosene, cotton goods, and other American products will find along this river a great market. The most important towns which are thus made accessible are Wuchow, Tsun-chow and Nan-ning-fu. Other cities on the river will be stopping points for steamers, as Nanking and other ports on the Yangtze now are.

Wuchow is a walled city on the West River, at its junction with the Fu Ho. It is situated in Kwangsi, about 12 miles from the eastern boundary and 200 from Canton. There are no obstacles to navigation up to this place. It is the largest distributing point of goods from Canton and Fatshan. Wuchow is the natural port of Kwei-lin, the capital of Kwangsi, which is situated about 150 miles up the Fu Ho. Kwei-lin has hitherto, on account of the river being closed, been supplied to a limited degree with goods from Hankow, although Hankow is more than three times further from it than is Canton.

Nan-ning-fu is a walled prefectural town in Kwangsi, situated 363 miles further up the West River. It has a population of 40,000 and is the seat of considerable trade. There are rapids, but the river is said to be navigable.

Tsun-chow Fu is a considerable town situated at the junction of the West River with the Pak-Ho.

It is plain that the opening of the West River will be of great advantage to the Chinese living along its banks. It will increase the Chinese revenue, give an impulse to inland production, and improve the condition of the inhabitants of the towns. The opening of the river will do away with many abuses. The provincial authorities now find themselves obliged to levy landward duties on goods for various objects. Even goods under "transit passes" are subjected to imposts. The opening of the river will remove, or, at least, greatly modify these exactions.

Some idea may be formed of the stimulus to industry and commerce which will result from opening the river ports in Kwangtung and Kwangsi, by comparing the probable results with those obtained on the Yangtze. Even at Chungking, the last port on the Yangtze, which was opened March 2, 1891, the value of the trade passing through the imperial maritime customs was reported, for 1895, to be 13,253,772 haikwan taels (about $10,285,054). The concession to France of the right to trade at Lungchow, in Kwangsi, and at Mengtzu, in Yunnan, produced, in 1895, at Lungchow a direct foreign trade to the value of 90,950 haikwan taels (about $70,577), and at Mengtzu of 2,842,319 haikwan taels (about $2,205,625).

A book might be written on the commercial advantages to be derived from unrestrained access to, and intercourse with, the three great provinces of Kwangsi, Yunnan, and Kweichou, but I must refer further inquirers to Williams's Middle Kingdom and other authorities. The population of these three provinces is probably 25,000,000.

CHARLES DENBY,
PEKING, *February 9, 1897.* *Minister.*

In a communication to the Department, dated February 10, 1897, Minister Denby adds:

The convention between China and Great Britain, in which this opening is provided for, was signed by the ministers of the Yamên and the British minister at this city on Thursday last, the 4th instant, and it is to come into force within four months from the date of signature. By this convention, Wuchow-fu, in Kwangsi, and Shamshui City and Kongkun Market, in Kwangtung, are to be opened as treaty ports and consular stations, while Kongmoon, Komchuk, Shinking, and Takhing are to be made ports of call for goods and passengers.

There are no exclusive privileges stipulated for in this convention as to British trade, but this route and these ports are to be opened to all nations, as are other ports in China.

TRADE AT THE NEW TREATY PORTS OF CHINA.

From the Customs Gazette for the last quarter of 1896, being the first quarter in which the returns from the newly opened ports appear, I compile some facts with reference to the trade of these ports.

To judge from the revenue received at these places, one would have to conclude that their opening has been of little advantage to foreign trade and a burden rather than a benefit to the imperial treasury.

The three ports opened since the war with Japan are Shasi, Soochow, and Hangchow. In this review, I shall also include Chungking, which was opened in 1891.

Chungking.—At this port, there has been a slight falling off both in imports and exports as compared with the same quarter in 1895. A few items, however, show a gain. American drills show a steady increase from 1893. The number of pieces imported was 1,695, as compared with 1,575 pieces for the same quarter in 1895, 960 pieces in 1894, and 15 pieces in 1893.

Nine hundred gallons of American kerosene oil were imported, as against 100 gallons in the last quarter of 1895, but this is still far from approaching the figures for the same quarter in 1893, which were 39,300 gallons.

Imports of Indian yarns still continue in large quantities, though there is a slight decline from the last quarter of 1895, the figures being 47,651 piculs (6,353,466 pounds) in 1896 and 50,278 piculs (6,703,733 pounds) in 1895.

There has been a general falling off in woolens, but broadcloth, Russian cloth, and Italian cloth all record a steady improvement since the opening of the port. This is particularly true of Italian cloth, the imports of the latter for the quarter being 5,036 pieces, as against 4,076 pieces for a similar period in 1895. Szechuen, the province of which Chungking is the principal port, produces wool and the people of that region seem more inclined than those of the other provinces to purchase woolen goods, which as yet they are unable to manufacture for themselves.

The exports of wool for the quarter under review amounted to 5,806 piculs (774,100 pounds), an improvement over the figures of 1895, which were 2,534 piculs (337,866 pounds). Other important exports are feathers, hemp, medicines, musk, nutgalls, opium, rhubarb, raw silk, and white wax. For the latter, the province of Szechuen is famous. The export for the quarter was 3,841 piculs (512,133 pounds), showing a slight decline from the same period in 1895. Most important of the items mentioned is medicines, of which the exports for the quarter were worth 181,150 haikwan taels ($141,297 in gold). This, however, falls below the report for 1895—214,157 haikwan taels ($167,042.46 in gold). Rhubarb, which is not included in this estimate, makes a very respectable item, 767 piculs (102,011 pounds) being exported during the quarter.

The customs revenue for the quarter to was 122,135.50 haikwan taels ($95,265.69), a decline of 34,986.89 haikwan taels ($27,290.57) as compared with the receipts for the last quarter of 1895.

Shasi—Shasi is a large market town on the Yangtze River, about 150 miles above Hankow. The customs revenue for the quarter, from all sources, at this new station amounted to no more than 1,776.48 haikwan taels ($1,385.65 in gold). The only trade which it at present maintains is with Hankow and Ichang. Twenty-three vessels entered and cleared during the quarter, with a total tonnage of 31,996. Among foreign articles imported, the most important are cotton goods, cotton yarn, and sugar; but the quantity reported for each is very small. The principal items of export are native cloth, medicines, silk, vegetable tallow, and varnish. The small value of the trade is indicated by the imports and exports of treasure, the import amounting to 1,380 taels ($1,076.40) and export to 8,370 taels ($6,528.60).

Hangchow.—Hangchow is a much more important place. It is situated at the head of the bay of the same name and at the southern terminus of the Grand Canal. There are smaller canals giving communication on all sides with the surrounding country and several steam-launch companies maintain a daily service between the port and Shanghai in one direction and Soochow in another. It is distant 120 miles from Shanghai and about the same from Soochow. It shows more rapid progress than any other of the new ports. Numerous applications for land in the foreign concession have been registered, some of them from our own countrymen; and Hangchow will, without doubt, assume considerable importance in the near future. The total collection by the customs during the quarter amounted to 6,060.21 haikwan taels ($4,733.20 in gold).

The shipping returns for the quarter are exhibited in the following table:

Hangchow to Shanghai.	Entered.	Cleared.	Hangchow to Soochow.	Entered.	Cleared.
Steam launches	239	227	Steam launches	99	106
Passenger boats	611	595	Passenger boats	239	310
Trading junks	58	76			

The principal articles of import were 3,500 piculs (466,666 pounds) of copper, 28,800 bamboo canes, 2,000 gallons of American kerosene, 2,000 gallons of Russian kerosene, 1,000 gallons of Dutch kerosene, and 1,488 piculs (198,300 pounds) of tobacco.

In the exports, the most important item is fans, of which there were more than 440,000 pieces shipped. The opening of this and the neighboring port of Soochow has led to a great deal of travel on the part of the natives of this region. The arrivals in and departures from Hangchow during the quarter were 26,988. The movements of treasure for the same period were: Imports, 1,229,916 haikwan taels ($959,334.48 in gold); exports, 1,369,153 haikwan taels ($1,067,939.34).

Soochow.—The report for Soochow is not so encouraging. The customs revenue for the quarter amounted to 343.43 haikwan taels ($267.88), the greater part of which was for coast-trade duties. There are no returns of imports or exports.

It would not be fair to conclude from these meager returns that the opening of Soochow is a failure. It is an important city, the capital of one of the richest provinces in China, and the center of the silk district. There was considerable delay in the opening of the port, due largely to some differences of opinion between the Japanese commissioners and the Chinese officials as to the limits and management of the settlement. There is every prospect now that the trade of this port will develop very rapidly.

The building of a good road through the foreign settlement has furnished a fine object lesson to the inhabitants of the city, and seems to have awakened a desire on the part of most of them to test its merits. Cab drivers and jinrick-sha men appear to be gathering quite a harvest. One silk filature and one cotton mill have been erected, and the former is already in operation. It has a capacity of 600 bassines. The cotton mill is nearly completed. It will be furnished with 25,000 spindles. In connection with it, there will be a ginning mill with 1,000 gins. With abundance of raw silk and cotton at their doors, the proprietors of these mills, who are Chinese, can not fail to secure large returns on the investment, unless prevented by unfavorable legislation on the part of the Government. Such enterprises, too, are a guaranty of the future prosperity of the port.

T. R. JERNIGAN,
Consul-General.

SHANGHAI, *March 5, 1897.*

[From the Shanghai Mercury, March 5, 1897.]

THE CUSTOMS GAZETTE FOR THE LAST QUARTER OF 1896.

As a rule, the quarterly returns of the maritime customs, unless very carefully examined, throw comparatively little light on the condition of trade. Those of the last quarter of 1896, especially when taken in connection with the whole year, are, however, eminently satisfactory. The decided progress which we noted toward the end of 1895 has well continued through the whole of the succeeding year, and it is pleasing to note that the revulsion which might have been anticipated in the last quarter did not appear, but that the advance has every appearance of being permanent. This is shown almost as much in the apparent exceptions as in the general result. This advance, as we have before had occasion to remark, is more apparent in the northern ports, but the southern, with the exception of Canton, partially accounted for by local circumstances, have exhibited a like result. It is noteworthy that Niuchwang, notwithstanding that Shingking was the chief sufferer in the war with Japan, follows the general rule, and that, while its chief export (that of beans) is considerably in excess of the corresponding quarter of 1895, it nearly comes up to that of the previous year (1893), when no apparent prospect existed of a destructive war. As we have noted before, there is a very marked substitution in the list of imports of the heavier for the lighter descriptions of cotton goods. American drills, for instance, have risen from 22,000 pieces in 1893 to 64,000 pieces, and sheetings from 39,000 pieces to 89,000 pieces. Indian yarn has nearly doubled in the same period, from 16,000 piculs (2,132,800 pounds) to 30,000 piculs (4,000,000 pounds), and woolen goods show also, on the whole, an increase. We may notice, too, that the lighter description of English cotton goods, while not increasing proportionately, show a decided increase; while items such as kerosene oil and sugar, which were intimately connected with the comfort of the inhabitants, have also shown much progress. This change is exhibited in a general increase in the amount of duty collected of some 25,000 taels* during the year, the gross amount being 168,000 taels. The same general features are to be noticed at Tientsin, where a general increase in the collection is to be noticed, the total in 1894 being 249,000 taels; in 1895, 281,000 taels; and in 1894, 331,000 taels. Imports here showed a marked improvement, with the favorable exception of rice, indicating that the home supplies were more abundant. The export of skin and wool showed, however, a decline, consequent, apparently, on higher prices being realized at home. Notwithstanding, the export duties collected rose from 136,000 taels in 1894 to 163,000 taels in 1895 and 177,000 taels in 1896. In Chefoo, the condition of affairs was not quite so satisfactory. Chefoo is more erratic in its trade than the northern ports, the amount varying considerably according to the facilities offered for internal communication. The total, though inferior to 1895, an exceptional year, was much in advance of any preceding period, and the collection receding by but 8,000 taels from 108,000 taels in 1895. In 1894, the total, it is well to remark, was 87,000 taels.

In Shanghai, the influences at work were more apparent, and here the collection, notwithstanding a continual decline in opium, rose considerably during the three years, being 1,514,000 taels in 1894, 1,613,000 taels in 1895, and 2,131,000 taels in the quarter under notice. In imports, the largest increase was to be noticed in American drills and sheetings, English shirtings and like goods declining on the whole from 1895, though considerably exceeding former years. Woolen goods had difficulty in holding their own; but metals, except lead, showed a favorable increase. Opium, always a declining figure, withdrew still further, the import of the foreign drug declining from 8,761 piculs (1,168,133 pounds) in 1893 gradually to 7,565 piculs (1,008,666 pounds) in the last quarter. More unaccountable was, however, the apparent decline in the import of the native drug, which fell from 4,120 piculs (600,000 pounds) in the year before, to 2,328 piculs (310,400 pounds) in the current. The explanation, of course, is to be found in the continual struggle between Peking and the provinces, as to which shall nobble more of the squeezes to be levied off trade, and the provinces for the nonce scoring a success. It, however, resulted in a loss to the Government of some 10,000 taels. In exports, there was not much to be remarked on. Steam-filatured silk, except for the United States, had not, owing apparently to high prices, been exported to any considerable extent, except to the United States, which took off 1,100 piculs (146,666 pounds), France being contented with 570 piculs. In other silks, there was little variation from the average. Black tea showed a considerable decline, from 40,000 piculs to 29,000 piculs (3,860,000 pounds), but green indicated a slight rise. Black brick tea was almost extinguished, only 1,770 piculs being exported; but green brick rose from 112,000 piculs to 129,000 piculs (16,200,000 pounds). The reexports of piece goods showed a decline all round, and stocks have presumably largely increased. Rice, as we have before maintained in commenting on the trade of Tientsin, was exported in but small quantities. This was unprofitable for freights, but indicated a better condition of the crops elsewhere. In imports, all along the Yangtze there was a decline, more especially at Hankow, and the revenue suffered accordingly. The principal apparent decline was in native opium, from causes of which we have already spoken, the opium duty in Chungking alone declining no less than 53,000 taels. A temporary increase took place here of 15,000 taels in coast-trade deposits, which meant merely so much more money locked up. This was curiously more than balanced by an increased withdrawal at Hankow of 21,000 taels, which reduced the revenue at the latter port, the apparent falling off on the whole being but 4,000 taels, from 380,500 taels to 376,700 taels. Chinkiang showed a very serious decline in revenue from 341,000 taels to 222,600 taels, but this was accounted for by the almost entire cessation of the rice export, which declined from 1,000,000 piculs (133,333,333 pounds) to 182,000 piculs (26,266,666 pounds), as well as by decreased imports of cotton goods. Shasi appeared for the first time in the reports, but as the total revenue amounted only to 1,776 taels, it is too soon to judge of the capabilities of the port. Ningpo showed nothing more than temporary fluctuation, and the southern ports on the whole advanced, the collection of the six ports of Fuchau, Amoy, Swatow, Canton, Kiungchow, and Pakhoi increasing, on the whole, 44,000 taels, from 1,413,000 taels to 1,457,000 taels, notwithstanding a fall of 35,000 taels in Canton. The latter does not appear to have resulted from any decided slackness, as the principal staples were well kept up. On the whole, there is considerable reason for congratulation on the quarter's returns, which indicate that the recovery of trade after the war has not been a mere temporary spurt, but has been well maintained.

---

* The haikwan tael on January 1, 1897, was worth 78 cents.

AMERICAN COTTON AT SHANGHAI.

About two years ago, the China and Japan Trading Company imported 50 bales of American cotton for Shanghai mills, to be used in the manufacture of the finer grades of cotton yarn; but there is no demand for such yarns, and the cotton then imported has not been entirely used, and very little, if any, has since been imported.

In Japan, some mills are using American cotton exclusively in making the finer grades of yarn. In China, the mills confine themselves to making Nos. 10, 14, and 16. Occasionally there is a demand for No. 18, but this is a decided exception. But if finer yarns should be made later, American cotton will be needed, as neither the Chinese nor Indian cotton will do.

American cotton is shipped to Japan by the Pacific line and landed at Kobé (Hiogo) at $22 (Mexican) per picul (133⅓ pounds). At Shanghai, it was sold at 16 taels ($12.48, according to the value of the tael on January 1, 1897) per picul. Indian middling cotton is sold here at 14 taels ($10.92) per picul, but the poorer grades, which are mostly used in the manufacture of coarse yarns, are sold at 10 or 11 taels ($7.80 or $8.58) per picul.

The estimated importation of Indian cotton for the past six months is 5,000 bales; and this is due in part to difficulties between the mill runners and the Chinese cotton merchants.

American cotton seed has been planted in this section, but the result has not been satisfactory, because the seed is not given the test it receives at home. The Chinese cotton farmer sows cotton seed as the American wheat farmer sows wheat seed. The cotton ridges are made wide, as our wheat ridges, and the seeds are taken in the hand and scattered broadcast. In consequence, the cotton plants are too thick and the bolls never mature. If American cotton seeds were given the same test as they are given at home, the result would be far more favorable. But when the finer staple of cotton is produced in China, the mills of China will supply the demand for the finer cotton goods now supplied by the United States and Great Britain.

T. R. JERNIGAN,
Consul-General.

SHANGHAI, *February 16, 1897.*

INDUSTRIAL ENTERPRISES IN TONGSHAN.

I have just returned from a day's visit to Tongshan, 80 miles distant by rail from Tientsin, where I learned that new car works would be established, probably at Lu Kou Chiao, when the construction of the Lu Kou Chiao-Hankow line is begun.

Manufacturers of machinery should, in my opinion, be apprised of this fact and urged to send catalogues and price lists to Y. T. Lin, secretary, or to C. W. Kinder, engineer in chief of the imperial railways, Tongshan.

There are already quite extensive works at Tongshan, where about 600 men are daily employed. At these works there is now in process of construction the rolling stock for the Tientsin extension, axles, wheels, springs, and couplers only being imported.

I was greatly surprised at the excellence of the finish of the new passenger cars.

Connected with these works there is a small planing mill. No doubt a larger one will be constructed at Lu Kou Chiao when the car works are started. Manufacturers of planing and saw mill machinery should, therefore, be on the qui vive.

The Chinese Engineering and Mining Company, Tongshan, is sinking a new shaft of 20 feet diameter, the depth to be 1,300 feet. The shaft, when completed, will strike the best seam of coal now being worked by this company, through a shaft 500 feet deep. This seam of coal takes such a downward, slanting course that it is daily becoming more difficult to work it through the old shaft; hence the new shaft to meet this seam at a depth of 1,300 feet.

This mining company is also making borings at other places, as the present output of 2,000 tons daily will be inadequate for the anticipated demand of 1,000 tons daily from Peking after the completion of the Tientsin-Peking Railroad.

Our manufacturers should place themselves in communication with this company for the supply of the machinery for this new shaft. Catalogues and price lists should be sent to the secretary or to H. Michaelis, the engineer in chief of the company.

What is needed most in Tientsin is an American firm with ample capital. A consul has neither the time nor the staff to do more than give suggestions and point out the way.

SHERIDAN P. READ,
TIENTSIN, *February 16, 1897.* *Consul.*

DEMAND FOR FIRE ENGINES IN TIENTSIN.

As there have been several serious fires in Tientsin lately, the question of procuring fire engines for the British concession is receiving considerable attention.

Mr. A. W. H. Bellingham, the secretary of the British municipality, has spoken to me on the subject, and I promised to bring the matter to the attention of makers of fire engines in America, in order that they might send to the British municipality, Tientsin, catalogues and price lists.

SHERIDAN P. READ,
TIENTSIN, *February 17, 1897.* *Consul.*

THE IMPERIAL BANK OF CHINA.

One of the most striking features of the commercial development which China is undergoing since the war with Japan is the great increase in banking facilities.

The Russo-Chinese Bank, organized primarily to facilitate the management of the Russo-Chinese loan, has established agencies in Shanghai, Tientsin, and Vladivostok, and is about to open agencies in Peking and Chefoo. The future of this institution is amply assured. In addition to the handling of the Chinese loan of 1895 for £15,820,000 ($76,988,030), on which annual payments are to be made for thirty-six years beginning with 1896, this bank is to do the financiering of the Transmanchurian Railway, recently organized. The offices of this railroad and of the bank are to be located on the same premises in this city, next to the Russian post-office and just west of this legation. It is confidently expected by the managers of this bank that it will do the banking business of the Russian tea trade and obtain other business from Chinese and foreign sources. The shares of the company, of the par value of 125 rubles, are now quoted at 315 rubles. The Chefoo agency of the bank will be taken advantage of in the payment of the Russian squadron, and also, probably, in connection with the employment of Shantung laborers, to be engaged for work in Manchuria.

Another large banking institution, in which it is proposed to use Chinese capital with foreign methods and under foreign management, is to be known as the Imperial Chinese Bank of International Commerce. The plan of this bank originated with Shêng Hsüan-huai, whose railroad projects have been fully reported to the Department. This plan was submitted to the Emperor by Shêng, and was approved by imperial decree dated the 26th ultimo. The project, in outline, is to obtain a capital of 5,000,000 taels,* of which Shêng guaranties 1,000,000 taels from the shareholders in the China Merchants' Steamship Company and the Chinese telegraph administration. One million taels further are to be subscribed by other directors of the proposed bank and 500,000 taels of stock is to be sold to Chinese merchants. Shêng is to be the president of the company and the directors and stockholders are to be exclusively Chinese. This bank is to have the authority to issue notes, coin money, transmit taxes, and handle other Government funds.

The management of the central office of this bank has been offered to an English broker, Mr. Maitland, formerly in the employ of the Hongkong and Shanghai Banking Corporation. Other foreigners will be made managers in Peking, Tientsin, and other cities. The Peking agency is understood to have been offered to an American banker, but his services could not be secured. In addition to the agencies in China, branches will be established in Europe and America, where the title of the bank will be the Imperial Bank of China. It was intended originally that the Shanghai and Peking agencies should be opened in April next, but there has been delay in securing the funds which Shêng undertook to supply, and upon which the Chinese Government has conditioned its financial and other assistance.

There is, however, no reason to anticipate that this delay will be of long duration, and a great future may be predicted for this bank. It will be not only an agency of the Chinese Government and of the system of railways to be built under Shêng's control, but it will doubtless develop a large and profitable business among the merchants of China.

---

*The minister does not designate the tael, but it is, most likely, the Shanghai tael, valued at 78 cents in United States currency on January 1, 1897.

The native banks now existing in China do a large business and possess much capital, but they are unfamiliar with the demands of foreign trade. This new bank will have exceptional facilities for gaining the confidence and support of these institutions.

It is a flattering commentary on the solidity and management of the Hongkong and Shanghai Banking Corporation, the greatest existing financial institution in China, that its stock not only has not depreciated in view of the threatened competition, but remains in demand at the enormous premium of 170½ per cent. It is probable that this rivalry may not threaten this great institution. Not only is it securely entrenched in the confidence of the mercantile community of China, but it is probable also that the advance in commercial enterprises here will create ample business for the established houses and their new competitors.

I greatly hoped that American financiers would enter this field. It seemed to me that our system of national banks could be adapted to the wants of China with advantage, and I frequently urged this plan upon the consideration of Chinese statesmen. There is no immediate prospect, however, that our system will be adopted.

CHARLES DENBY,
PEKING, *March 10, 1897.* *Minister.*

SUPPLEMENTARY REPORT.

Since writing my dispatch of the 10th instant, I have received the North China Daily News of the 10th instant, containing an outline of the constitution of the Imperial Bank of China, a clipping whereof I have the honor to inclose herewith.

The Peking agency of this bank is not yet opened, but a site therefor has been purchased and building operations have begun.

CHARLES DENBY,
PEKING, *March 19, 1897.* *Minister.*

AN OUTLINE OF THE CONSTITUTION OF THE IMPERIAL BANK OF CHINA.

(1) The Imperial Chinese Bank of International Commerce is established by special imperial edict at the recommendation of the Tsungli Yamên. The Throne has been asked to sanction the deposit of the funds of the imperial exchequer in the bank and to allow it to transmit the taxes from the provinces to Peking. For this last a much lower charge will be made, without any detriment to the bank, than

has been hitherto charged by other native banks, whose charge for transmitting Government money has always been exorbitant. With these privileges, especially the first, the public will have proved to them that the bank is under the special protection of the Imperial Government.

(2) Branch offices will be established in all the treaty ports, provincial capitals, and capitals of the principal powers of Europe and America. The head office will be at Shanghai, which, with the branch in Peking, is to be opened in the early part of the spring of 1897. The other branch offices will be established in their order of necessity until all the places above noted are possessed of them. With reference to the name to be observed in China, the bank shall be called the Imperial Chinese Bank of International Commerce; but in Europe and America it will simply bear the title of Imperial Bank of China. The name in the various other cities will have the name of the special city where it is situated added to the general name; for instance, the branch at Peking will be called the Peking Branch of the Imperial Chinese Bank of International Commerce, and so on.

(3) In cases where there are no branch offices when the bank shall have begun business, trustworthy and substantial hongs or banks will act as agents of the bank until such time as the board of directors shall be warranted in establishing a regular branch office in accordance with the general scheme.

(4) The capital of the bank will be 5,000,000 taels—with power to increase at discretion of the board of directors if business should prove flourishing enough to warrant the additional capital—divided into 50,000 shares of 100 taels per share. The bank will be on the limited-liability principle. Fifty taels will have to be paid on application for each share. The subsequent calls will be 25 taels each time; but a two months' notice will be advertised in the local papers whenever these calls are to be made upon the shareholders.

(5) With regard to increase of capital, if desirable, shareholders will have the refusal of the new shares, and all those not taken up by them will be placed on the market.

(6) It is intended to commence business, for the present, with only half of the proposed capital, viz, 2,500,000 taels. Of this sum, His Excellency Shêng Hsüan-huai has guarantied the sum of 1,000,000 taels, subscribed by the shareholders of the China Merchants' Steam Navigation Company and of the Chinese telegraph administration; the board of directors another 1,000,000 taels, and the balance required, at present, of 500,000 taels, will be placed on the market at the various treaty ports and provincial capitals in order to enable Chinese there to subscribe for them. The allotment of shares must be at the discretion of the board of directors, like the custom prevalent in foreign commercial undertakings.

(7) Intending shareholders may pay either into the branch offices of the China Merchants' Company in their respective cities or those of the telegraph administration, who will grant the necessary temporary receipts, or, if preferred, they may transmit direct to the head office at Shanghai. In all cases, the receipts granted will be temporary certificates, and regular share certificates will not be issued until all the shares shall have been fully paid up.

(8) The names of the chief officers of the bank will be reported to the Throne, to be recorded in the usual way. But all business methods pursued by the bank will be entirely on the foreign plan, as has been the way with the Hongkong and Shanghai Bank, which is to be made the model of this bank in everything. In a word, the bank is to be a commercial institution; hence there will be no official deputies (weiyuans) appointed and, in their stead, there will be directors publicly chosen and appointed; there will be no great seal issued by the Peking board of works, but instead its seal will be the usual business "chop" of commercial institutions. All mandarinic etiquette and custom will be unhesitatingly tabooed and only such in

vogue in commercial undertakings, pure and simple, will be adhered to. "Integrity, impartiality, and strict attention to business" will be the motto of the bank. No favoritism or nepotism will be permitted, as might be the case if the bank were to be conducted otherwise. The power will be in the hands of the directors, while the profits will go to the shareholders.

(9) Out of the funds of the bank, a fixed deposit will be placed aside, consisting of 2,000,000 taels, or of 1,000,000 taels at the commencement, in proportion to the half capital first subscribed. This amount will be reported to the Throne, whenever made, in order to be placed on record.

(10) Balance sheets and statements of accounts will be made semiannually, like those of other foreign banks. Eight per cent interest on capital will be allowed shareholders, and the surplus, if any, will be divided into a bonus to the directors and staff and a reserve fund. The balance, after apportioning the above, will be divided into 80 per cent as dividends to shareholders and 20 per cent as a royalty to the Government for its protection to the bank and for the following exclusive privileges granted, namely, issue of notes, coinage of money, deposit of exchequer funds, and for transmitting taxes from the provinces to Peking.

(11) It will be left to the discretion of the board of directors whether, after reaching 5,000,000 taels amount of capital, the reserve fund is to be increased further or not.

(12) The board of directors will be twelve in number, and if any addition is to be made to this number, the additional directors must be men of high reputation, business integrity, ability, and solid substance, possessing large interests in the bank, chosen from the shareholders. There must be at least three managing directors to attend to the business of the head office, who will exercise active supervision over it.

(13) As the bank is to be managed entirely on foreign principles, there will be appointed to the branch offices in Peking and treaty ports foreign managers and staffs as at the head office, while the compradores will act as assistant managers. But if any measures of importance are to be undertaken, reference must first be made to the board of directors, who will signify approval or vice versa.

(14) After all the branch offices shall have been established, a chief manager will be appointed to regularly inspect the affairs of these branch offices. He will supervise the branches in the smaller towns, which will have no compradores appointed to them.

(15) As the bank is an entirely Chinese concern, the board of directors will all be Chinese; but two European advisers will be engaged, who are well known and are of proved business ability and solid circumstances, who shall give the weight of their experience and sagacity in the councils of the board whenever it meets to deliberate over the affairs of the bank affecting international commerce.

(16) The board of directors will also select suitable gentlemen to act as local directors in the branch offices of the treaty ports and provincial capitals to supervise their business.

(17) Contrary to the usual custom observed in foreign banks where the managers engage their own compradores, the board of directors will do this, but the usual custom of giving suitable guaranties and securities in cash will be observed in this matter, as well as the usual agreements binding either party.

(18) The manager of the head office will be Mr. Maitland, for many years employed in the Hongkong and Shanghai Bank, where he has filled positions of importance and trust, and the compradore there will be Mr. Ch'en Seng-hsiao, a member of the Iron Guild and a man of widespread business reputation. The foreigners on the staff will be selected by Mr. Maitland and the native staff by Mr. Ch'en.

(19) The interest allowed on deposits and those demanded on loans, mortgages, etc., will be similar to that of the foreign banks, and no money will be lent unless proportionate guaranties for payment be given by borrowers from the bank. The plan to be pursued when issuing tael and dollar notes will be that observed by the Hongkong and Shanghai Bank, namely, bank notes of 100, 50, 10, 5, and 1, in dollars or taels, as the case may be; and, like the Hongkong and Shanghai Bank, difference of exchange will be charged on bank notes issued by the bank but in circulation in the various treaty ports, etc., according to rates ruling in them. The issue of these notes will never exceed the amount of cash reserve in the bank.

(20) Loans issued to the provincial authorities will be made at the discretion of the board of directors in consultation with the chief manager, and the consent of the board of revenue must be given before such loans can be issued. The methods employed by the Hongkong and Shanghai Bank when lending money to the Imperial Government will be adhered to by the bank in the above instances.

(21) As to the coinage of silver dollars and subsidiary money, the board of directors will deliberate over the matter when the time comes, subject to the approval of His Excellency Shêng, whose advice will be followed.

(22) In connection with this important movement to improve the financial condition of the Empire, it is intended to establish at Shanghai a general chamber of commerce, in which there will be, among other trades, representatives from the railways, steamship companies, telegraphs, gold and other mines, and banks.

(23) Moneys of the above-named corporations deposited in the bank will be treated in exactly the same way as those deposited by private individuals, and no extra privilege or favor will be granted in consideration of the locus standi of these powerful corporations. That the bank will prosper if managed on strictly business principles and with perfect honesty, there can not be the slightest doubt. To give an instance:

(24) The Hongkong and Shanghai Bank's original capital is $10,000,000, subscribed in the usual way. According to its balance sheet for last year (1896), after deducting interest paid out and dividends to shareholders, general expenses, etc., the reserve fund has been built up to $6,000,000, and it has also an insurance fund of $250,000. Notes equal to $9,000,000 odd have been issued, while the deposits now amount to $61,370,000 odd. There is also gold equal to $57,190,000 odd in the vaults of that bank, and bills, etc., equal in value to $14,820,000 odd. The original value of shares in that bank was $125 per share, but they are now sold in the markets at $250 premium, or $375 per share. This is clear proof that a bank is bound to prosper if directed on proper business principles and with a staff composed of men of proved ability and integrity. All mandarinic methods and officialdom must, therefore, be strictly tabooed from the new bank if the shareholders desire it to prosper like the Hongkong and Shanghai Bank.

(26) The balance sheets will always be certified by the chief manager, and they will be duly presented to the shareholders not later than three months after date of issue.

(27) The following are the gentlemen (who have more than a local reputation) constituting the present provisional board of directors to inaugurate the establishment of the bank: Chang Chên-hsun, Yeh Ching-chong, Yen Hsing-hou, Yang Wên-shun, Liu Hsio-shen, Yen Ying, Ch'en Hsien, Yang Ting-kao, Sze Tze-chin, and Chu Pei-chen. His Excellency Shêng will have general supervision over the bank until the regular board is confirmed.

THE CHINESE POSTAL SERVICE.

The recent inauguration of the imperial Chinese postal service on a seemingly permanent basis appears a fitting occasion for a brief sketch of the postal service of China.

Just when, and under what circumstances, post-offices were first established in the Middle Kingdom, it would be difficult to say, but there can be no reasonable doubt that it was by a process of gradual evolution that they attained the magnitude and importance which characterized them until a very recent date.

As the population of the Empire increased, the wealth of individuals and the importance of commercial centers increased in proportion, and the natural consequence was a demand for facilities of intercommunication. Hongs, or mercantile firms, increased in all populous centers, and as the formation of guilds or trade unions is one of the most prominent characteristics of the Chinese, it follows, as a matter of course, that these hongs speedily combined, not only for the purpose of protection from outside competition, but also, and primarily, to facilitate the collection and distribution of mail matter. During the many centuries of their existence, the importance and wealth of the postal hongs increased enormously, until they grew to form one of the most powerful combinations in China, which, until recent years, had an absolute monopoly of the conveyance of mail matter to and from all parts of China. No attempt appears to have been made by the Chinese Government to regulate the business of mail carriers or to impose any fixed scale of charges for the conveyance of mail matter, and, in return for this noninterference, the postal hongs, in accordance with old Chinese custom, paid heavy subsidies to the local officials for the privilege of carrying on their business unmolested and of imposing what charges they, in their discretion, thought fit. Whether it was due to their superior intelligence or to some other cause, all of the postal hongs in China were in the hands of natives of the city of Ningpo, in the province of Chekiang, and no native of any other part of China had the slightest chance of being admitted to the guild. These hongs were in close business connection with each other and received and delivered each other's mail, and, as all charges for postage and delivery were demanded and paid in advance, no difficulty arose on the question of "short-paid mail matter." The charges made for conveyance of letters, parcels, etc., from one place to another were uniform. For instance, a letter weighing up to 1 pound was carried from Chinkiang (the nearest port) to Shanghai for 40 cash* (a little over 2 cents); to Nanking, 35 cash; to Yangchow, 25 cash; to Tsing Kiang Pu, 60 cash; or a parcel, according to size and weight, for 100 to 500 cash. But the charges increased with the distance. No tariff was published by the postal hongs, and the clerks were thus enabled to indulge their hereditary propensities for "squeezing." A letter or parcel containing valuables could be declared and registered by paying an extra sum besides the usual postage, and, in the event of loss, a certain proportion of the value could be recovered from the postal hong.

---

*900 cash=$1 (Mexican).

The knowledge that the amount of business done depended on the satisfaction they gave to their customers in the matter of safe delivery, acted as a sufficient check on any attempts at dishonest practices, and as a result of the work of generations, there was no more honest and reliable business to be found in China than that of the postal hongs. Foreigners soon recognized the value of the service, and have never hesitated to intrust their correspondence, duly addressed in Chinese characters with the name and destination, to the native post-offices, with the almost absolute certainty that it would be safely delivered. The only factor which militated against the native hongs, so far as foreigners were concerned, was the uncertainty as to "speedy," as distinct from "safe," delivery. A Chinaman has no notion of the value of time, and if this one drawback could have been overcome and a uniform charge fixed so far as coast and river ports were concerned, it may safely be said that the domestic postal service would have remained entirely in Chinese hands, to the satisfaction of foreigners and natives alike. Objections have been raised on the plea of the probability of foreign letters being tampered with for the purpose of obtaining information, political or otherwise, but it may be urged that the postal administrations of Europe are said to be by no means guiltless on that score. Two wrongs do not make a right, but it may well be doubted whether such a breach of trust would be committed to any greater extent in China than elsewhere.

The authorities in every province of China had a regular courier service, which was employed only for the conveyance of official dispatches. Each district magistrate controlled the courier service within his own jurisdiction, and the Government paid for the maintenance of the service. Each district had a relay of horses for the couriers, and so, from district to district, the official mail pouch passed, and, in urgent cases, the courier was required to cover 160 miles in twenty-four hours, but ordinarily 100 miles was considered a good day's work. This courier service is still maintained and all written commands from the Chinese Emperor and communications from the Tsungli Yamên at Peking to the governors-general and governors in the various provinces are carried by the couriers overland. The system is perfect, and, before the introduction of the telegraph, the couriers were classified in first, second, and third grades, according to the importance of their duties. Now, all urgent official instructions are sent through the telegraph first and the dispatch follows, a system which dispensed with the first grade of couriers. The cost is enormous, since the service is conducted uniformly throughout the whole Empire.

The land renters of Shanghai inaugurated a local postal service, under municipal management, some thirty years ago, and although the service was carried on at a loss for some time, it supplied a long-felt want, and the land renters cheerfully bore the expense for the sake of the convenience. As the service of steamers increased and became more and more speedy and regular the work of the Shanghai local post-office increased in proportion and attained a very high degree of efficiency. Not only did it become more perfect, but, owing to the fact that the steamer companies carried the mails free of charge, instead of showing a deficit, it returned a handsome yearly profit to the municipal council. Extraterritorial post-offices had also been established in Shanghai by England, the United States, and France, and later by Germany and Japan, and quite recently also by Russia. The respective consuls at the outports acted as postal agents for the collection and distribution of foreign mail matter. Contemporaneously with the establishment of the local post-office in Shanghai a domestic postal service had been inaugurated by the imperial maritime customs, under the management of the inspector-general at Peking. Although this was primarily intended for communication between the customs officers at the open ports, the Shanghai local post-office took advantage of it to distribute the Shanghai mails at the outports. As this service was undertaken by the imperial maritime customs post-offices free of charge, it helped to further swell the revenues of the Shanghai local post-office by saving the expense of establishing agencies at the outports. To put an end to the anomalous state of things then existing, the inspector-general proposed, in 1886, to consolidate the different postal services and establish an imperial Chinese postal service which, as in other civilized countries, should have entire control of the conveyance of mails, both domestic and foreign, and this proposal was provisionally approved by the foreign governments. Foreign public opinion in China was, however, not sufficiently advanced, and prejudice against all things Chinese was so strong that, after considerable discussion, the opposition carried the day and the scheme was, for the time, abandoned.

Then came the immense and somewhat strange development of what, for want of a better name, may be called the "philatelic mania." Municipalities and even private individuals at the outports discovered that, by the establishment of local post-offices, not only would a long-felt want be supplied, by facilitating the exchange of mails, but that large profits could be made by the sale of stamps to dealers and collectors. As a result, local post-offices were established at most of the outports, and although dealers in most foreign countries soon refused to recognize "Chinese locals," large quantities of these stamps were sold to collectors, and considerable profits were realized by the parties concerned. The postage charged by these offices was practically the same as at the Shanghai local post-office and was as follows: Letters, 1 cent per ounce; newspapers, one-half cent each; samples, etc., one-half cent per 2 ounces; parcels, 4 cents per pound and 1 cent per additional pound. As this postage, by agreement between the various post-offices, covered the conveyance of a letter or other mail matter to any of the open ports north of Hongkong or to Nanking, it is small wonder that the communities at the treaty ports were eager to avail themselves of such an extremely cheap service, although the multiplicity of offices, each with its own sets of stamps to tickle the fancy of collectors, was the subject of much pleasantry. It would, of course, have been utterly impossible for these offices to have carried on an efficient mail service with profit, except by the cordial cooperation of the steamer companies, who carried their mails free of charge. Even the steamer officers, who were often put to the greatest inconvenience by the multiplicity of mail bags, etc., placed under their charge, did not receive the slightest compensation for the amount of extra work this entailed. This extremely cheap and fairly efficient mail service was, as has been the case in all countries where it has been tried, the cause of a very large increase in the number of letters, etc., carried, and it may reasonably be expected that the quantity of mail matter carried at present will be maintained, even under changed conditions.

On the first day of the Chinese new year (February 2, 1897) the imperial Chinese postal administration—the scheme of years—became a reality. Preparations more or less complete appear to have been made to insure, as far as possible, the smooth working of the institution. The steamer companies were subsidized to carry the imperial Chinese mails by a remission of half the fees chargeable for working cargo after 12 midnight at any port to which they carry mails, which remission amounts to 10 haikwan taels (about $7.80) in each individual case, and this arrangement was sufficient to obliterate the local post-offices at the outports, none of them being in a position to offer better terms. Negotiations are now pending for transferring the staff and plant of the Shanghai local post-office, and satisfactory arrangements are being made with the extraterritorial post-offices for the conveyance and delivery of foreign mails.

The one great difficulty which presents itself, and which will require careful handling, is the arrangement to be made with the native postal hongs. They have a vested interest in a business which has been built up by generations of hard labor, and they naturally resent the establishment of any service which threatens to deprive them of that business. Their customers, too, with the ultra-conservative instincts of the Chinese, regard the new departure with the greatest suspicion, intensified by the fact that the charges levied by the imperial Chinese post-office are heavier than those of the postal hongs. These charges, as at present fixed, are as follows: Letters, 2 cents per one-fourth of an ounce; newspapers, 1 cent each; samples, etc., 1 cent per 2 ounces, 10 cents per pound, and 5 cents for every additional pound. It will be seen that these charges compare very unfavorably with those of the extinct local post-offices, and are far in excess of those of the native postal hongs. Although it is impossible to say precisely what was in the minds of the originators of the scheme in fixing these charges, the explanation appears to be this: The Chinese Government looks with strong suspicion upon the inauguration of any departure from the old custom, and if this departure is at all likely to be unprofitable, it in all probability will be rejected. If a profit, however small, may be looked for with reasonable certainty, and if that profit may be expected to increase in the near future, the new scheme has a chance of permanent adoption.

Any proposal emanating from the inspector-general on the lines indicated would naturally receive the approval of the Government, but it would also entail, in order to redeem pledges, the necessity of making the institution a paying one from the outset. As the subsidies to the steamer companies, the opening of post-offices, and the employment of additional staff, and last, but by no means least, the provision of the necessary plant to carry on the new business, entail a heavy expenditure, part of which is provided out of the customs funds, it follows that the post-office must charge enough to give a reasonable probability of recouping the outlays and leaving at least a modest margin of profit. From past experience in other countries, it may be anticipated that there will be shrinkage in the quantity of the mail matter carried at present, so far as foreigners are concerned, and, leaving out of the question any possible increase in correspondence, the present charges will certainly give the anticipated margin of profit at the end of the financial year.

With all the power of the Executive behind him, the inspector-general will no doubt be able to devise some plan for utilizing the postal hongs. And it is certain that if all these hongs fall into line and the present tariff is enforced on all Chinese correspondence, the profits realized will be so considerable that an early and large reduction in the charges may be expected. With one exception, the foreign staff employed in the imperial Chinese post-office is drawn from the customs outdoor staff—a body of men completely ignorant of postal work. As a result, the outdoor customs staff is for the time hampered, since an efficient customs officer can not be made in a day. In fact, the charge made by hostile critics, that efficiency has been sacrificed to economy, seems not altogether without foundation. As the service develops, however, and the needs of each district are recognized, an adequate staff will, without doubt, be forthcoming, and any complaints on that score will gradually be removed. Then the Chinese Government will no doubt apply for admission to the Postal Union.

A. C. JONES,
Consul.

CHINKIANG, *March 5, 1897.*

IRON MINES IN CHINA.

I inclose a clipping from the North China Daily News of the 4th instant, giving a description of the iron and coal mines near Hankow, in Hupeh. This article is from the pen of some intelligent observer, whose name is unknown to me, but whose observations are worthy the attention of those interested in the railroad development of China.

Hankow is destined, by its central position and its commercial importance, to be the railroad center of China. From there will diverge the lines to Peking and Tientsin and the wealthy cities of western China, and there connections will be made with the lines south of the Yangtze River and eastward to the sea. If the position of this city as a prominent railroad center left anything to be desired, this would be amply compensated by the abundance of lime and coal and iron in its vicinity.

The article inclosed correctly states that the great initial difficulty under which the steel and iron foundries at Hankow labored was the scarcity of coal. I learn now from reliable professional sources that recently discovered fields of coke-making coal have removed this difficulty. The discovery is very opportune for China's railroad prospects. The ambition of Chang Chihtung, viceroy of Hukwang, announced a decade ago, that China should build her railroads with rails of domestic manufacture, seems within the possibility of realization. The staff of his iron works includes Germans, Belgians, and Americans, all men of high recommendation, and, with the natural resources at their command, nothing should prevent their success, except the factors hinted at in the conclusion of the inclosure—"mandarin" and "squeeze," between which there seems an affinity which works detriment to every public enterprise in China.

The approach to Hankow by rail presents serious difficulties; areas must be crossed which, in the rainy season, are sometimes flooded to the width of 40 miles. The route northward, however, is being surveyed, and Hankow has been definitely decided on as the southern terminus of China's first trunk line.

CHARLES DENBY,
PEKING, *March 13, 1897.* *Minister.*

[From the North China Daily News, March 4, 1897.]

THE WANGSHIK'ANG MINES.

The iron mines commonly known as the Wangshik'ang mines are some 18 miles inland from Huiyao, a small village on the Yangtze River about 80 miles below Hankow. A short line of railway connects Huiyao and the mines. This railway was laid down in 1891 by Mr. Hildebrand, a German engineer, and the whole work and its finish are admirable. It is built with steel rails on iron sleepers, which rest on an embankment raised above the old highroad. The line is single and the stations are Huiyao, Lichiafang, Hsialu, Shengfusheng, and T'iehshan. The total length is about 52 Chinese li, or, say, 18 English miles, and it has been in constant use for the last five years. When we visited Huiyao about two years ago the first up train left at 8.30 a. m., reaching the terminus, T'iehshan, about two hours later. Deducting stoppages at the stations en route, this would mean a speed of about 15 miles an hour. The accommodation for passengers was rough and meager. Two covered vans, resembling nothing so much as English cattle trucks, were reached by a ladder and represented passenger comforts. Seats and windows there were none. The fare, however, was very cheap, 80 cash (less than 5 cents) for the whole distance. The return train left T'iehshan at noon, reaching Huiyao at 2 p. m., and returned at 2.30 p. m., leaving again at 4.30 p. m. The 4.30 train only came through to Huiyao if there was a sufficiency of freight. Otherwise it stopped overnight at Hsialu, where the locomotive sheds and railway workshops have been built. On our return journey from T'iehshan, we found that the train would not proceed that night to Huiyao. The superintendent resident at Hsialu entertained us in the most hospitable manner, and accompanied us at 8 p. m. to our houseboat at Huiyao in a trolley carriage worked by half a dozen stout coolies, who did the distance of nearly 12 miles in an hour's time. The natives make use freely of the passenger cars and the villagers give no trouble. The workshops at Hsialu were well fitted and under very capable management, so that all repairs to the line and to the rolling stock could be at once executed on the spot.

About 200 tons of iron ore are brought down daily for transportation to smelting works founded by the Viceroy Chang Chihtung, at Hanyang, which lies directly above Hankow. At the terminus of the railway is T'iehshan, or Iron Hill. This Iron Hill is a natural wonder, being composed entirely of ironstone containing from

75 to 80 per cent of pure iron. The adjacent hills also abound in ironstone, containing from 40 to 70 per cent of pure iron. There is, however, so much phosphorus combined with the iron that its rejection for the conversion of the ore into good steel is a matter of some difficulty. At the present time the ore is obtained by manual labor, aided by blasting. A cable tramway runs up and down the Iron Hill, and by a simple mechanical balance the loaded trucks in their descent serve to bring up the empty ones. These former are wheeled away on rails and discharged into larger trucks for transport to Huiyao and thence to Hanyang. A shaft has been pierced into the heart of the Iron Hill and has revealed thick lodes of ore extending far inwards.

Nature, not content with having supplied these vast quantities of iron, has endowed the locality with hills abounding in vast stores of limestone. Iron and limestone thus found together in such almost inexhaustible profusion would suffice to render this province one of the wealthiest in China; but when coal, and good coal, be added, the combination of these natural products is enough, apart from all other considerations, to make any syndicate cast longing eyes on this portion of the Yangtze Valley. The great initial difficulty under which the steel and iron foundries at Hanyang labored was the scarcity of coal. Coal has, however, been discovered at Wangshihteng, a place near the iron centers. This coal, although very suitable for steaming purposes, will not convert into serviceable coke. An abundance of coal which will, however, give good coke has been found at no great distance to the westward of T'iehshan. It may be remembered that the dearth of coke at Hanyang so seriously hampered the steel and iron workers there that large supplies had at first to be imported from Europe at great expense.

The only serious difficulty in dealing with the coal seems to be to determine the precise spots where to sink working shafts, as the coal lies in some places in thick seams and in others in parcels only. However, there is no lack of good and skilled foreign assistance, if only this be allowed elbow room. The foreign staff maintains confidently that the whole of this district will bear comparison with the coal and iron fields in other parts of the world. Given an increase of capital and good management, and there is little doubt that the steel and iron industries would increase enormously, and, what is more, would become a financial success. It would be superfluous to detail the causes of past failure, but it might be interesting to note that coal and limestone command a ready sale in the Hankow markets, and that this may explain why it is that the coal and lime laden barges arrive at Hanyang so much lighter in draft than when they started from Huiyao.

While on the subject of the fertility of the surrounding coal fields, it may prove of interest to relate the account of a visit made about two years ago to one of the small coal pits. Lichiafang is the second station on the railway and about 4 miles from the river bank. Behind the station rises a steep hill about 800 feet high, the path over the hill being made up of stone steps. Up and down these steps the coal is borne in baskets on the backs of coolies. A cable tram, costing, say, $40,000, would be an incalculable boon. At the foot of the hill, on the side remote from Lichiafang, the present shaft has been sunk. The mine, surrounded by fern-clad hills and with the blue waters of the Tiger Lake gleaming in its neighborhood, presents a charming picture to the eye. The coal seams run at an angle of 45° to the level ground, but give a greater angle at a greater depth below the surface. The shaft was then about 120 feet deep, and by the courtesy of the resident engineer we were enabled to descend into the mine. The upper slant was inclined at 45°, but half-way down this was increased to 52°, while at the bottom a new and perpendicular shaft was being sunk. Luncheon was served to us down below, on a block of coal, to the great interest of the grimy native miners. The interior of this mine compared with that of the Kaiping mines in North China, where the daily output averages 1,000 tons, was very small. The daily output of coal only averaged 20 tons, but this amount could have been trebled, if necessary. The price of coal at Huiyao was 5 taels (about $3.50) per ton, which seemed excessive, as 1 tael more than covers the cost of bringing up 1 ton to the pit's mouth. The machinery department and workshop were in one inclosure and on a small scale. The coal seams, which extended regularly on either side, varied from 10 to 15 feet in thickness.

To a mere observer, it seems strange and inexplicable why the steel and iron works at Hanyang, with their new and expensive machinery, were not established at a spot nearer the coal and iron centers. The present site is unhealthy and liable to be flooded. A great deal of money and labor has, therefore, been spent in filling up the low-lying land and in building embankments. Then, again, the cost of transport of the ore is considerable. What is of more account, however, is that the quantity of coal and limestone shipped at Huiyao and the quantity discharged at Hanyang vary in such an apparently mysterious and unaccountable manner that any stranger, who was not conversant with the meaning of the two words "mandarins" and "squeeze" would be totally mystified. It is probable that His Excellency Chang Chihtung was anxious to have his new undertaking under his eyes. He may have thought that his presence would insure a more thorough working of the raw material into steel rails, rifles, and marketable pig iron. He has spent his money freely, and has not spared himself in his endeavor to make China independent of other countries as regards manufactured steel and iron. But the viceroy has failed. It would be hard for Shêng to do worse; it is possible for him to do a great deal better.

Official dishonesty can be more than counterbalanced by handing over the entire working control of the mines, foundries, and all accounts connected therewith to a competent foreign staff. There may be other remedies, but the lesson must be learnt, if it has not already been learnt, that the mere possession of raw material, however enormous in quantity, and latest machinery, however expensive in price, can not by themselves make a success of any enterprise.

THE GOLD STANDARD IN JAPAN.

I inclose a copy of the formal statement made by Count Matsukata, the Premier, before the Japanese Diet, as to the plan suggested by the cabinet for placing the circulation on a gold basis.

This statement was made on the 3d instant and is taken from the columns of the Japan Gazette of the 6th and 7th instant.

The statement was made by Count Matsukata in support of a bill introduced into the Diet by the cabinet. This bill has caused much discussion among foreign merchants and bankers in this port.

It has been referred by the Diet to a select committee. No report has as yet been made by that committee, but it is generally believed that the bill will be passed.

N. W. McIvor,
Consul-General.

Kanagawa, *March 8, 1897.*

COUNT MATSUKATA ON THE GOLD-STANDARD BILL.

Count Matsukata's speech on the monetary bill, made in the lower House on Wednesday, the 3d, runs as follows:

"Gentlemen, it goes without saying that the subject of the monetary system is a momentous economic question having an important bearing on the interests of the State and on the welfare of the nation, and, therefore, in discussing the revision of the present system, the most careful consideration and exhaustive investigations are, of course, necessary. I wish, first of all, to call your attention to the history of currency in this country.

"Setting aside the ancient history, it was during the period of Keicho (1596–1614) that the monetary system was roughly established, giving a basis for the present system. During that period, the Tokugawa Government opened the gold and silver mints, and, by coining and issuing for circulation gold and silver coins, gave a uniform currency to the country. The system was that of using gold, silver, and copper alike. Subsequently, gold and silver were frequently recoined and inferior coins issued, leading to the demoralization of the monetary system. The ratio of gold to silver became very unsteady and, compared with markets abroad, it was so abnormal that the koban and ichibu (silver) passed at the ratio of gold 1 to silver a little over 8, while the ratio abroad was 1 to 15 or 16. The foreign trade opened under such circumstances naturally caused a serious efflux of gold, and the Tokugawa Government's procrastinating efforts to prevent this outflow had no effect at all. Early in the Meiji period, the Government reformed the monetary system, and by adopting foreign systems, with due consideration to the customs of the country, issued new coins and attempted to reorganize the currency administration and to prevent the efflux of gold and silver by enforcing a gold standard. But the numerous events and disturbances at the commencing stage of the new régime, coupled with the deficits of the national treasury, led to the increased issue of inconvertible notes, and in consequence the efflux of specie was more than ever accelerated. It was in January, 1868, that the Government decided to issue paper money, forced as it was by the extreme financial embarrassment of those days. The paper money then issued was what is called the 'Dajokwan satsu,' which was an inconvertible note ordained to circulate for thirteen years. Afterwards, the 'Mimbusho satsu' and various other notes were issued, amounting to a very large sum. These notes for some time maintained their face value; but, as they were inconvertible, they began at last to tell heavily on the foreign trade, which constantly showed the excess of imports over exports and tended to accelerate the outflow of specie. In 1876, the national bank regulations were so revised that bank notes amounting to 34,000,000 yen* were also made inconvertible. This increase of inconvertible notes led to further efflux of specie, excess of imports over exports, rise of prices and interest, and the depreciation of public loan bonds. Meanwhile, the bad habits of luxury became common and speculation ran high among the people, making the economic condition of the country critical. Under such circumstances the Government worked hard to seek a means of remedy, and at last decided upon a plan of reorganizing the monetary system. The organization of the Specie Bank in 1881, with a view to extending the machinery of circulation abroad; the establishment of the Bank of Japan in 1882, for the purpose of making arrangements for rendering the circulation smooth; the revision of the national bank regulations; the promulgation of the convertible bank note regulations—all these were with the single object of making arrangements for the overissued paper money. At the same time, the Government endeavored to redeem notes by withdrawing reserve notes, issuing new specie bonds, and economizing expenditure and applying the surplus for the conversion of notes and to accumulate specie and to increase the fund for the conversion of notes by utilizing the reserve fund. These efforts fortunately proved successful, and since the conversion of notes was commenced in 1886 the paper money, which had been at one time 70 per cent lower than its face value, came to a par with silver, and thus was accomplished the task of disposing of the inconvertible notes.

---

*The Japanese yen=99.7 cents in 1876.

"As to the species in circulation, they were very scarce. In consequence of the issue of an ordinance in May, 1878, which extended the sphere of circulation of the trade silver dollar, the monometallic system of a gold standard was changed to the bimetallic system. But as silver was exclusively used in all transactions and gold existed only nominally, the system was practically that of a silver standard. While gold never appeared in circulation, silver has steadily depreciated since 1873, till now it has only half the value it had two decades ago. Moreover, silver has become so uncertain in value that no one can tell what will be its fluctuations to-morrow. The cause of such violent fluctuations in the relative value of silver to gold seems to lie in the amount of production of the two metals. The production of silver in the world has increased enormously. In 1895, it amounted to 179,000,000 ounces and in 1896 to more than 200,000,000 ounces, or thrice as much as the production of two decades ago. While the output of silver has increased so enormously, the world's total production of gold was 9,000,000 ounces in 1895 and 10,000,000 ounces in 1896, or only twice the amount two decades ago. Such being the disparity of production of the two metals, it is not to be wondered at if the ratio of 1 to 15 twenty years ago has now come to 1 to 30 or more. I do not say production alone accounts for the depreciation of silver; there are some causes of an artificial nature. But taking production only into consideration, one can sufficiently see how silver could depreciate so much. Such being the violent fluctuations of silver, bimetallic or silver-standard countries have experienced extreme embarrassments and have been forced to reject silver and adopt the monometallic system of a gold standard, or practically such, by suspending the free coinage of silver, though they nominally maintain the bimetallic system.

"If we turn our eyes to the monetary changes resorted to in foreign countries since 1873, we must regard the change in Germany as the most conspicuous. Years ago German States effected their union politically, but not monetarily; for there were in that Empire, as mentioned in the German bill for monetary reform, seven different currency systems, most of which were based on the silver-thaler standard. Different states employed different scales of calculation, and the inconveniences in collecting taxes and in commercial transactions were indescribable. The proposal for a uniform currency throughout the Empire arose under such circumstances, and in 1871, the coinage of gold coins was announced. By this time, Germany, having obtained 1,395,000,000 thalers, as the result of the war with France, was enabled to enforce a gold standard in July, 1873. Out of the indemnity from France she applied about 340,000,000 thalers for coining gold. At the same time she continued to purchase gold by selling silver, but subsequently, in 1879, the sale of silver was suspended owing to a marked depreciation of that metal. This step of Germany formed the greatest cause of the fluctuations of the ratio of gold and silver, and gave rise to the preference of gold to silver all over the world. On seeing Germany resorting to a gold standard, Sweden and Norway also immediately adopted a gold standard, while France restricted the reception of silver by her mint. In 1874, the members of the Latin Union (France, Italy, Switzerland, and Belgium) mutually agreed to restrict the coinage of silver, except subsidiary coins, for three years. In 1875, Holland also adopted a gold standard, and one of the Latin Union (Switzerland) stopped coining silver. In the following year, Belgium and France had to follow the example of Switzerland, Spain and Russia suspended their silver coinage, and the United States ceased to pass silver as a legal tender. Such being the effects of the currency reform in Germany upon Europe and America, all countries were panic stricken and attempted to prevent the efflux of gold and the influx of silver, and this led to the serious depreciation of silver. Countries which held silver in large amounts or produced that metal abundantly naturally endeavored to restore its value. The United States qualified silver as legal tender under the Bland Act in 1878, again suspended the coinage of silver in 1885, but in 1890 passed the Sherman Act and increased the amount of silver to be purchased when bimetallism was again loudly talked about. All these endeavors were, however, fruitless, and the general antisilver tendency was gaining in strength more and more. In 1892, Austria-Hungary floated a gold loan of 183,456,000 guldens, and adopting a gold standard, issued gold krone coins. In 1893, India, which had been known for its absorption of silver, stopped the free coinage of that metal and adopted the English pound sterling as legal tender at the rate of 1s. 4d. or less per rupee. Russia also suspended the coinage of silver and the United States had again to repeal the silver-purchase act. More recently, Chile, in 1895, and Costa Rica, in 1896, became gold-standard countries, while in the United States, which had more to do with silver than any other country, goldites have now the ascendency over silverites. Thus the whole world is now in favor of gold and despise silver. European and American countries have, as I have already mentioned, mostly adopted the single standard of gold, and even those which have not yet adopted the standard are endeavoring to amass gold. Added to this, people of every country like gold more than any other metal, while many people keep gold in stock owing to its great value compared with its volume and to the belief that there is no fear of its depreciation in the future. In consequence, the demand for the metal has rapidly increased. As to silver, the effect was entirely the opposite of gold. Its demand for coinage use has diminished; its use for artistic and savings purposes has not increased in proportion to the increase of its production; India's demand for it has ceased, while those uncivilized countries, which have been expected to increase their demand for silver, have not yet advanced to the stage anticipated. While the demand for gold exceeds its supply, the supply of silver is far above its demand. It is then quite natural that gold should appreciate and silver depreciate.

"It was owing to the violent fluctuations of silver and consequent serious effects upon this country that the Government established the monetary council by an imperial ordinance in 1893. The questions to be considered by the council were:

"(1) What are the causes and general effects of the recent fluctuations of the relative value of silver to gold?

"(2) What are the effects of such fluctuations upon the economic condition of this country?

"(3) Do such fluctuations necessitate a change of the monetary system of the country? If they do, what standard and how shall it be adopted?

"The council commenced its investigations in October, 1893, and completed its task in July, 1895; it took twenty-two months. During the twenty-two months, various arguments arose, but the final result was the approval of a gold standard by six to two of bimetallists. But then it was difficult to get a sufficient stock of gold for adopting a gold standard. Moreover, prices had not risen so much as at present, and commercially the country was in a more or less favorable condition. So the time was not yet ripe to carry out the decision of the monetary council.

"As the result of the war with China, however, the country was to get an indemnity of 200,000,000 taels by the Shimonoseki treaty, and besides the indemnity, a sum of 30,000,000 taels as compensation for the retrocession of Liaotung. As China was to pay these sums by floating gold loans in European markets, it was arranged, for the sake of mutual convenience, that the payment should be made in London in British gold coins. The sums received up to the end of last year amounted to more than £22,400,000. It is, therefore, expected that the Bank of Japan will have in the near future a stock of gold worth some 109,000,000 yen. Of this, 36,700,000 yen is the value of the stock in the bank at present, and the remaining 72,600,000 yen is the sum to be repaid by the Government to the bank. Besides the gold stock, the stock of silver is expected to exceed 49,000,000 yen. Hence the total reserve of gold and silver will amount to some 158,000,000 yen, or more than half the amount of paper money in the country. Japan, therefore, may now be said to have sufficient specie, for which so much anxiety has been expressed. Turning our eyes to prices, we see that they showed a marked rise on the conclusion of the late war, tending to affect the commerce of the country prejudicially. Speaking in figures, prices last year were on an average 30 per cent higher than in 1888 and 26 per cent higher than at the time just preceding the war. Some people attribute this rise to the expansion of currency. True, the currency has expanded, but deducting the sums spent in China and Formosa, and considering the expansion of business everywhere in the country, and the increase of the foreign trade, I can not attribute the rise of prices to the currency expansion alone. The chief causes lie in the depreciation of silver as well as in the general increase of demand for various articles. At any rate, prices have now risen and are acting unfavorably upon the foreign trade. In 1896, the excess of imports over exports amounted to 53,000,000 yen; this was no doubt an effect of the late war, but still quite an alarming excess. I trust you are quite satisfied that the time has now come for adopting a gold standard, speaking either from the readiness of the stock of species or from the rise of prices. I propose next to explain how the proposed change should be carried out.

"In revising the existing currency law of the country, there are two important points to be considered, viz: First, that the new gold coins shall have half the weight of the existing gold coins, so that a yen shall contain 2 fun (one-fifth of a momme) of pure gold, such yen being the unit of money; second, that the silver coins hitherto issued shall be called in and a transition toward the pure gold-standard system effected. Care must be taken not to affect prices, the relations of debtors and creditors, the burden of taxes and duties upon the people, and other existing monetary relations. The Government, after paying the most careful attention to all these points, has decided to issue new gold coins, equivalent in value to the present silver yen. But how should the value of gold or silver be fixed? This is the most important question. It might be fair to fix the relative value of the two metals by an average of several years, if possible. Silver, however, has fluctuated so violently that it is impossible to take an average without departing very far from its present value. The only alternative is to base the valuation upon the latest market quotations; but, as gold will more or less appreciate when the present proposal has been decided upon, it is necessary to value gold a little higher than it is worth at present in anticipation of the rise. An average of the London quotations during January this year was gold 1 to silver a little less than 32, and it is thought advisable to fix the ratio at 1 to a little over 32. Such valuation, making, as it does, the old gold yen equivalent to double the new gold yen, ought to prove the most convenient for the exchange and circulation of the new and old coins. London quotations have been taken for the basis, because, in this country, gold has not appeared for a long time in circulation and is quoted lower than in foreign markets. Some fear that gold valued higher than at present, even slightly, would tend to raise prices; but I believe such an effect would be practically inappreciable, and the proposal carried out on such a basis would not affect prices, the relations of debtors and creditors, the burden of the people, and other monetary relations. The next question is that of the disposal of the present 1-yen silver. This silver coin has passed as legal tender unlimitedly since 1878, and therefore it is necessary to allow a certain time before it is called in. The Government, while giving such an allowance, intends to withdraw it from circulation as soon as it is possible to do so. In the place of the 1-yen pieces, silver coins below 50 sen will be issued, while the 1-yen convertible note will be allowed to circulate for some time, so that there will not be caused much inconvenience in daily transactions. Should the 1-yen note become also unnecessary in the future, it may be called in. As business expands everywhere in the country, it will be necessary to increase subsidiary coins; more so when the 1-yen silver is withdrawn from circulation. Such an increase of subsidiary coins, leading to the increased possession of specie by the people, will materially help to strengthen the monetary basis of the country. While the 1-yen silver will be called in and convertible bank notes exchanged with gold, the Government, anticipating the probable necessity in the future and following the custom of the Bank of England, has decided to include silver among the regulation reserve of the Bank of Japan, and as there are many imperfections in the present monetary law, proposes to make several amendments. I wish now to clear away some fears expressed against the proposed change.

"The 1-yen silver exported from this country amounts to a very large sum, the total of such export up to January last being more than 112,000,000 yen. It is therefore asked whether the 1-yen silver will not be reimported and gold taken away? But, as you are aware, most of the exported 1-yen silver coins are in China, where they are treated like bullion and so much damaged that they have no longer the force of money. Investigations which have been made loco citatos show that, except those circulating in Hongkong and Singapore, it is very rare to find undamaged pieces among the exported 1-yen silver. As they are now useful in daily transactions abroad, there will not be many people coming out here to exchange them for gold pieces. Latest reports positively confirm this belief. Much less probability there is of the exported silver pieces being exchanged with gold, as silver is valued lower than at present in the proposed monetary law. There is, therefore, no need of entertaining a fear in this connection. Others fear that the stock of gold supposed to be sufficient at present may be difficult to be maintained as it is. But this depends upon the amount of exports—upon the productive powers of this country. Without developing the national resources, Japan will lose gold, even sticking to her present silver-standard system. From the history of the progress this country has made, it is evident that Japan's commerce will go on increasing and her resources will be more and more developed, and therefore we need not fear in this respect. Excluding last year, which was an exceptional one, an average of eight years since 1888 shows that, although imports from silver countries exceeded exports thereto by 10,500,000 yen annually, exports to gold countries were over imports therefrom by more than 11,000,000 yen; that is to say, Japan gets more gold than she loses silver. Continuing at this rate, Japan, which geographically lies between such gold-producing countries as Australia and California and receives some gold annually from China and Korea, ought not to feel much difficulty in taking in gold if she exerts herself more or less.

"Again, there are some persons who entertain fears from commercial points of view. True, Japan's commerce might benefit by the depreciation of silver before prices and wages rise seriously. But this is a mere temporary effect, which will cease when prices and wages have risen to the extent silver has fallen. The foreign trade has markedly increased, but this can not be attributed to the depreciation of silver alone, inasmuch as it must be admitted that the increased facilities of communications and traffic, the progress of education, etc., have materially helped to contribute to the commercial prosperity. Now that prices have risen so much, Japan will not only cease to benefit by the fall of silver, but will have to be affected injuriously. In competing with gold countries in such a silver country as China, Japan, which holds the advantages of geographical proximity and cheap labor, need not fear to lose her position. Some may speak of the disadvantages in competing against Chinese silk and tea in the markets of gold countries, but such disadvantages, if there be any, can not be permanent, and can be more than compensated by the comparative stableness of value and other permanent benefits of a gold standard. This argument was once adduced by members of the monetary reform committee in India and accepted.

"Every proposal is sure to meet with more or less opposition. Especially anent a question of the monetary system, it is impossible in every country to come to a unanimous decision. A natural opposition to the present proposal is that the present silver standard shall be maintained; but with silver fluctuating violently, Japan can not maintain her present system without prejudicially affecting her national development, as I have already explained. Another and stronger objection is that based on bimetallic theories which are supported by many scholars and merchants engaged in the Eastern trade. Bimetallism, implying as it does the alternate use of gold and silver as standard, is not easily feasible, it is impossible, to be carried out by any single country independently of other countries. An international monetary conference has been held several times, with a view to maintaining the value of silver and carrying out a bimetallic system, but always in vain. The latest conference was opened in Brussels, Belgium, in 1892, at the instance of America, which is most keenly interested in silver. Twenty countries were represented in that conference, but the meeting closed without coming to any definite result. Subsequently, it has been proposed in various countries, since 1895, again to hold such conference, but the matter still remains undecided, and even if such conference be opened again it is doubtful whether it will come to any decision. In the year following the conference at Brussels, one of the most powerful countries, Great Britain, reformed the monetary system of India, and an international bimetallic system has become more hopeless than ever. Even supposing an international monetary union is possible and a bimetallic system is adopted by all countries, there will be no harm caused to Japan by adopting a gold standard now. To sum up, a bimetallic system is impracticable without all powers combining; and if it is difficult to see such a union of powers, such an important proposal as the present one can not be put off on account of the uncertain bimetallic theories.

"As I have shown, anent the gold-standard proposal neither fears nor objections have any strong basis. I wish now to speak on the necessity and benefits of the proposed change. Firstly, a gold standard has the advantage of making prices steadier, for, as compared with silver, gold is more stable in value, and if the standard of value is steady, prices as measured by the standard must also be steady. Rising prices make markets active for a time, but will soon affect the material and wages, injure the productive power of the country, and tend to decrease exports; while suddenly falling prices cause losses to the commercial and economic world. Then it is best that prices do not fluctuate violently, but it is impossible to avoid such fluctuations with a silver standard, and the only remedy is to be found in a gold standard. Secondly, a gold standard will tend to increase exports; for, while it makes commercial transactions with foreign countries adopting a similar standard more convenient, it enables the country to avoid violent fluctuations of prices and tends to develop her industry. Again, a gold standard diminishes the exchange fluctuations. Japan's commerce has been frequently hampered by the fluctuations of exchange with gold countries, consequent upon the fluctuations of silver. If she adopts a gold standard now, all such evils will not be repeated. Another advantage is that of enabling the country to extend her machinery of circulation. As Japan progresses, it becomes necessary for her to be in constant touch with various foreign markets, but at present she is isolated from foreign countries in respect of circulation. Such inconvenience will be obviated by a gold standard, which will render the circulation between foreign and native markets smooth and give many other financial advantages. I would not say, however, financial conveniences alone ought to settle the question, for the proposal is an economic question of vital importance to the State.

"The present proposal, which is based upon the history of the country since the period of Keicho, upon the observations of the general current of affairs both at home and abroad, and upon the farsighted consideration of the future, aims at healthy economic development of the country. Opinions are settled in various countries anent such a question. Austria-Hungary has resorted to a gold standard, even by raising a loan. In spite of objections raised by bimetallists and others, practically there is no room for doubt as to the merits of a gold standard. Gold is quick to fly away to other countries and difficult to recover when lost; it is, therefore, desirable to carry out the proposed change at the present moment, when it is the most convenient for Japan to draw in gold. If the change be delayed, economic uneasiness and serious losses will ensue. The question is, indeed, a momentous one; but it has been fully investigated by the monetary council, which included several members of both Houses. I trust you will carefully consider the proposal and give your speedy consent to it."

TEXT OF THE JAPANESE COINAGE BILL.

I send a copy of the Japanese coinage bill referred to in my dispatch dated March 8, 1897, as translated and published by the Japan Herald:

ARTICLE 1. The right of coining and issue of specie belongs to the Government.

ART. 2. The weight of 2 fun (the tenth part of 1 momme) of pure gold shall be made the unit of price and be called 1 yen.

ART. 3. The coins shall be of the following nine kinds: Gold coin—20 yen, 10 yen, 5 yen; silver coin—50 sen, 20 sen, 10 sen; nickel coin—5 sen; bronze coin—1 sen, 5 rin.

ART. 4. The calculation of the value of coins shall be by the decimal method, and below a yen the one-hundredth of a yen is called a sen, and one-tenth of a sen, rin.

ART. 5. The quantity of the coins is as follows: (1) Gold coin, pure gold 900 and copper alloy 100; (2) silver coin, pure silver 800 and copper alloy 200; (3) nickel coin, nickel 250 and copper alloy 750; (4) bronze coin, copper 950, tin 40, and zinc 10.

ART. 6. The following is the weight of gold coins: (1) Twenty-yen gold coin, 16.6665 grams;* (2) 10-yen gold coin, 8.3333 grams; (3) 5-yen gold coin, 4.1666 grams; (4) 50-sen silver coin, 13.4783 grams; (5) 20-sen silver coin, 5.3914 grams; (6) 10-sen silver coin, 2.6955 grams; (7) 5-sen nickel coin, 4.6654 grams; (8) 1-sen bronze coin, 7.128 grams; (9) 5-rin bronze coin, 3.564 grams.

ART. 7. Gold coins are circulated as legal tender without limitation as to the amount, and silver coin is circulated as legal tender up to 10 yen; nickel and bronze coin to 1 yen.

ART. 8. The size and designs of the coins shall be settled by an imperial ordinance.

ART. 9. The pyxing difference of purity in gold and silver coin is one-thousandth in gold coin and three-thousandths in silver coin.

---

* 1 gram=15.432 grains.

ART. 10. The following is the pyxing difference in the weight of gold pieces, 0.0324 gram per piece and 3.1125 grams per 1,000 pieces; 10-yen piece, 0.02269 gram per piece and 2.325 grams per 1,000 pieces; 5-yen pieces, 0.162 gram and 1.5375 grams for every 1,000 pieces.

Silver coins, difference of 0.092 gram per piece for all kinds; 50-sen silver, 4.65 grams for every 1,000 pieces; 20-sen silver, 3.1125 grams for every 1,000 pieces; and 10-sen silver, 1.5375 grams for every 1,000 pieces.

ART. 11. The minimum weight for circulation of 20-yen gold coin will be 16.575 grams; 10-yen gold piece, 8.2875 grams; and 5-yen gold-piece, 4.143 grams.

ART. 12. The gold coins which have declined below the minimum weight from wear, and silver, nickel, and bronze coins which have become considerably worn, or coins inconvenient for circulation will be exchanged without commission by the Government for face value.

ART. 13. The coins of which designs can not be distinguished, or are stamped privately, or in any other way recognized to have been injured intentionally shall be invalidated as coins.

ART. 14. The Government will receive applications for the manufacture of gold coin by sending in gold bullion.

APPENDIX.

ART. 15. The gold coin issued hitherto will be circulated at double the price of the gold coin to be issued according to this law.

ART. 16. The 1-yen silver issued hitherto shall be gradually exchanged at the rate of 1 yen gold, in accordance with the convenience of Government. Until the exchange referred to above shall be concluded, silver yen shall be allowed to be circulated as legal tender without limitation at the rate of 1 yen gold. In case the circulation is to be prohibited, an imperial ordinance will be given six months previous to it. Should the exchange of the silver yen be not applied for within five years, calculating from the day after the circulation is prohibited, such will be treated as silver bullion.

ART. 17. Five-sen silver and copper coins issued hitherto will be allowed circulation as before.

ART. 18. The coinage of 1 yen silver is abolished after the promulgation of this law. (Silver bullion received by the Government previous to this date does not come under this provision.)

ART. 19. The previous laws and notifications which are in conflict with this law shall be abolished.

ART. 20. This law will be put in effect from the 1st of October, 1897, with the exception of article 18.

REASONS FOR THE BILL.

In ancient times, the production of gold was great in this country, and large amounts of gold coins were struck from the era of Keicho. But since the country was opened in the era of Ansei, the flow of gold out of the country was very great, owing to the improper ratio between gold and silver in this country, and was almost more than could be borne. Early after the restoration, the reform of the monetary system was projected as the first step, and the gold standard was adopted. But the paper-currency system not having been proper, a large outflow of specie was the effect. In 1887, the general circulation of silver was allowed; so that although in currency regulations gold was adopted as the standard, silver became practically the medium of general calculations, becoming the standard in practice. It has continued in that way up to the present, but the relation between gold and silver is now different from what it was before. The tendency of the world and the development and improvement of the economy of the country make us feel the disadvantage of the silver standard, and, moreover, there is a necessity for developing the economy of the State subsequent to the war. The result of the war with China has made the supply of gold easy. It is proposed, therefore, that we avail ourselves of the opportunity afforded and adopt the gold standard definitely, so as to promote the stability and development of the economy of the country. This is the reason for submitting the bill.

N. W. McIvor,
Consul-General.

Kanagawa, *March 13, 1897.*

JAPANESE TRADE CONDITIONS.

The growing importance of Japan as a field for western commerce can hardly be overestimated. Since the conclusion of the war with China and the signing of the treaty of peace of Shimonoseki, resulting in the opening up of eastern Asia, which has been so favorable for the export trade of Europe and America, it is more than ever necessary to know the conditions regulating commerce in the East, with a view to the further development of our trade with eastern Asia in general and with Japan in particular.

The German press has directed attention to the Japanese trade. Special notice has been taken of the opinion of the East Asiatic Lloyd, which enumerates the chief requirements and gives the exporter most valuable information and directions.

In Japan, the import and export trade is in the hands of foreign merchants, and usually importing and exporting are carried on by the same firms, who supply the Japanese merchants at wholesale. The wants of the latter, as regards prices, condition, quality, measure, weight, working up, packing, and shipping of the goods, have, during past times, been in conformity with certain rules, which must be observed if old connections are to be retained.

At the present time, it is not possible to make large and quick profits on small transactions. A solid trade in large quantities is the only one that promises success. Sales are usually effected "against cash," and in large transactions, the profit is quite reasonable, all the more because the orders are transmitted to the foreign manufacturers at a time when they are less occupied with the demands of home orders.

The Japanese makes his orders from samples; each foreign house must therefore have a sample room, where all goods of interest, or which it may be thought possible to introduce into the country, are exhibited. Price lists and sample books have little value. This is a fact our consuls in Germany have repeatedly emphasized in their reports to the Department, and they daily have occasion to mention it to American manufacturers. A Japanese agent, earning a fixed monthly salary, with commission, usually brings the intending buyer to the sample room and negotiates with him under the eyes of the principal representative both for the sale of imported merchandise and the purchase of native goods for export. The agent calls, besides, on the customers in town and country, exhibiting sample collections and taking orders, either definite or conditional, as the case may be. Either the contract reads for a certain quality, with certain conditions governing price, delivery, and payment, or the goods are delivered at a certain time, conforming to a submitted pattern and at a price agreed upon. Formerly, orders of this kind required the payment of contract money, which is still the case in China, but growing competition has abolished it in Japan. This is often regrettable, because the Japanese, should he desire the goods earlier or later than at the time agreed upon for delivery, tries to free himself from the contract obligations by blaming the quality of the goods or resorting to other subterfuges in order, perhaps, to buy from some other source. The courts do not prevent him from doing so, and a compromise, with reduced prices and delayed payment, ensues. This is a German point of view, and may be unfair to the Japanese merchants; certainly, such subterfuges are not unknown in Germany, as some American exporters know to their cost.

The retailing of goods in the interior is the business of Japanese merchants and bankers, who make advances on goods on brokerage. The export transactions are carried on in the same way, but there are Japanese agents for the principal articles of export, such as tea, silk, rice, and copper, who buy the goods from the interior, assort and transport them to the places of shipment, offering them there to the exporter.

As already mentioned, the importer is at the same time an exporter. He has either an agency of his own at home or the chief house is in Europe or the United States, the branch being in Japan. When such is the case, business is carried on with the least possible cost of management and the greatest profit.

In case of consigned imports, the shipper has to pay all charges, which are rather high, until the sale takes place. These charges are boat and coolie hire, customs, storage, and insurance (the latter fixed by the Yokohama Chamber of Commerce). Often, in such cases, the agent in Japan pays the shipper an advance of from 50 to 80 per cent of the value of the shipment, which does not, however, abolish the obligation of the shipper to refund money if the sale produces a smaller result.

In the case of new articles being shipped, such advances are hardly ever given. They are mostly sent consigned in order to find first a market for them.

Fair dealing on the part of the consignees must necessarily be relied upon; therefore, trial shipments of this description should only be consigned to a well-known, reliable Japanese house. After two or three such shipments, it will be seen whether the article finds favor with the public and whether further orders can be obtained.

Germany's exports to Japan in 1895 were nearly quadruple her imports therefrom, the value of the former being 26,100,000 marks ($6,211,800) and the latter 7,800,000 marks ($1,856,400).

THOS. EWING MOORE,
WEIMAR, *April 12, 1897.* *Commercial Agent.*

FOREIGN COMMERCE OF JAPAN.*

IMPORTS.

The imports of Japan during the fiscal year 1896 (171,674,474 silver yen†=$85,837,237 in United States currency) were 42,412,896 silver yen ($21,201,448) greater than those of 1895.

The commodities which show the greatest amount of increase are cotton, kerosene oil, machinery and parts of, and manufactured articles generally.

The figures given in this report are taken from the returns of the imperial customs and unquestionably show the correct value of the commodities imported into Japan, upon which the duty has been paid. Without further investigation, these figures would, of course, be held to indicate the normal increase in the demand of the Japanese for commodities of foreign production. I regret to say that investigations will not bear out such a view, as while the commodities undoubtedly pass through the imperial customs, it is nevertheless true that not less than 30,000,000 yen ($15,000,000) of the imports of 1896 were stored in the godowns (warehouses) of importing merchants in the port cities of the Empire on January 1, 1897, the Japanese merchants on whose indents the importations were made having declined to take delivery during the year under review. No doubt the carrying over of so large a volume of the imports of 1896 will result in a falling off in the imports of 1897.

Many reasons are assigned for the refusal of the Japanese merchants to take delivery of their merchandise. I am of opinion that the controlling reasons were that the business of the previous year having been exceptionally good and profitable to them, they became overconfident and placed larger orders for merchandise than the demand warranted; in addition to which, they suffered from a stringency in the money market and other disturbing causes during the year. All of these circumstances induced them, as a measure of protection to themselves, and regardless of the question whether the course was right or wrong, to decline to take delivery of the merchandise ordered by them. In how far a measure the foreign merchant is indirectly responsible for the state of things referred to it is impossible to determine, but there is, I believe, no doubt that they are to blame in some degree. Knowing, as they must have known, the peculiar foibles of the people with whom they were dealing, prudence should have dictated to them the necessity of surrounding themselves with reasonable safeguards, such, for instance, as the depositing of bargain money; and had this practice been followed in all cases, regardless of its effect upon the competition in which they were playing a part, the Japanese merchants would not only have realized the grave nature of a contract, but would have been sensible of the fact that any infringement of their agreements would undoubtedly involve them in immediate monetary loss and this would certainly have rendered them more cautious in ordering commodities to meet their anticipated requirements.

---

* This is an extract from Consul Connelly's annual report for the fiscal year 1896. The remainder of the report is printed in Commercial Relations for 1895 and 1896, vol. 1, pp. 833-840.

† The consul estimates the yen at 50 cents in United States currency.

IMPORTS FROM THE UNITED STATES.

The following figures give the increase in imports from the United States during the year under review, as compared with those of the immediately preceding year: Imports from the United States in 1896, 16,373,419 yen ($8,186,710); imports from the United States in 1895, 9,276,360 yen ($4,638,180). These figures reveal an increase in imports in favor of the year 1896 of 7,097,059 yen ($3,548,530). Gratifying though it is, the increase here shown is not nearly as great as it might have been if those engaged in trade pursuits in the United States had devoted more attention to the markets of Japan and placed their productions before the Japanese in the same manner as they are placed by them before purchasers in the home market.

EXPORTS.

The value of the exports from Japan for the year 1896 shows a falling off of 18,268,417 yen ($9,134,290) as compared with that of the previous year. The commodities that show the heaviest falling off are silk (raw and manufactured), tea, rugs, and curios of all kinds.

The people of Japan have had many perplexing difficulties to surmount during the year 1896, all of which had a tendency to more or less affect their export trade. I deem the following as particularly entitled to mention: Seismic disturbances, resulting in enormous loss of life and property; an unusually large and destructive rainfall; change in the administration of governmental affairs; stringency in the money market, induced by overspeculation and other causes; overconfidence on the part of manufacturers, through which the quality of their productions was not maintained; fluctuations in prices of Japanese staples, such as silk and tea, which forced buyers to make greatly reduced purchases; and, finally, labor difficulties, arising from scarcity of skilled labor and untimely demands of all grades of labor for increased remuneration.

I am of the opinion that the lessons of 1896 will prove to be salutary ones, and that the trade of 1897, when summed up, will exhibit vastly improved conditions.

Regarding the disturbing elements of the year 1896, hereinbefore referred to I can not conclude this part of my report without expressing my profound admiration of the marvelous patience, energy, and moral courage displayed by the people of Japan under such adverse circumstances, and more particularly of the conduct of those engaged in trade pursuits, who, in many instances, without complaint, were forced to see crumble away the accumulations of the thirty years they had been permitted to trade with the outside world. Surely the sterling qualities displayed by these people under such trying circumstances must be taken as evidence of their intention to materially assist in placing Japan permanently among the great commercial nations, and yet I regret having to express my belief that before so laudable and patriotic a purpose can be attained by them immediate and heroic measures will have to be taken to negative the rapidly crystallizing opinion entertained by the great majority of those engaged in trade with them, namely, that they are insincere in their trade relations, that they have little or no respect for the sacredness of contract, and, finally, that the laws of the Empire relating to contract liabilities are not administered in a liberal and impartial manner.

It is not my purpose or desire in this report to enter into a discussion of Japanese commercial probity, but as it has been, and continues to be, attacked, and as such attacks, if not checked, must inevitably endanger trade interests, I feel it to be my duty to call attention to them in the hope that the causes which have induced, and still induce, the making of such attacks may be speedily removed. It is exceedingly difficult to conceive how a people like the Japanese, who have made such rapid strides in all the essentials that tend to advanced civilization and who have shown such admirable qualities of body and mind under most trying circumstances, will permit the continuance of the alleged causes that have led up to the assailing of the commercial probity, not of a few, but of those generally engaged in trade, as they are well aware that the broad laws that control in trade and commerce are integral parts of, coextensive with, and necessary to, our common civilization and its material advancement. They are also fully aware of the fact that living within and under such laws, broad and liberal as they are, is the only sure means by which the end so patriotically desired by them can be attained; while on the other hand, wholesale evasion of such laws can only bring with it unfortunate and ruinous results.

The following table shows the value of the foreign trade of Japan to the shipping of the several nations named for the years 1895 and 1896:

Value of cargo exported and imported from and to Japan in Japanese and foreign steamers and sailing vessels.

Countries.	Exports.		Imports.	
	1896.	1895.	1896.	1895.
Steamers.	*Yen.*	*Yen.*	*Yen.*	*Yen.*
Japan	12,543.113	3.453.298	19,260,661	2,971,196
Austria	1,378,030	1,683,887	589.340	1,117,957
Great Britain	58,899,283	78,269,644	100,888,616	80,641,922
China	4,800	....	662	....
Korea	29,715	202,256	31,849	135,323
Denmark	2,640	11,346	5,514	147,753
Holland	16,782	327,598	28,152	270,894
France	13,733,174	14,014,475	12,981,259	10,465,784
Germany	15,111,468	16,142,602	23,336,669	19,680,612
Hawaii	1,786	....	....	....
Norway	3.707,440	2,666,593	4.262,246	4,158,097
Russia	206,379	307,684	71,762	59,269
Spain	54.943	49,054	316,344	63,015
United States	7,330,401	12,609,343	2,548,922	1,167,348
Sailing ships.				
Japan	81,206	90.017	175,325	150,696
Junks	455 841	387,103	1,205,579	733,997
Great Britain	160,343	1,699,178	2,134,610	1,549,504
Korea	6,872	2,139	8,448	1,646
Germany	47,095	88.930	196,677	83,416
Hawaii	40,550	4,286	....	16,855
Nicaragua	5.263	71,629	....	6,863
Norway	....	18,112	2,216	25,233
Russia	13,455	601	8,881	117
United States	707,130	1,340,381	1,857,807	1,066,902
Not specified	70,443	72,868	2,827	4,192

JAS. F. CONNELLY,
Consul.

OSAKA AND HIOGO (KOBÉ), *March 1, 1897.*

DUTY ON LARD IN NICARAGUA.

I inclose herewith a dispatch from our consular agent at Bluefields in relation to the lard decree of October 31, 1896.

In a dispatch dated December 19, 1896, to our minister at Managua, I gave an extract from a dispatch then lately received from our consular agent at Bluefields, as follows:

> On October 31, a decree was issued placing lard on the free list for a period of six months, beginning November 1. Mr. Samuel Weil, of this place, received a copy of the decree November 14. I called upon Governor Torres and suggested that the amounts paid by American merchants in November be rebated, but he declined to do so. He promises, however, not to collect duties on lard in May, saying that such will make up for duties paid in November.

Mr. Weil is a citizen of the United States and is one of the principal importers at Bluefields.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *March 15, 1897.*

CONSULAR AGENT CLANCY'S DISPATCH.

I have the honor to call your attention to an article headed "Duty on lard rescinded," page 1254, December number, Bulletin of the Bureau of the American Republics, and which was received in the mail from New Orleans this afternoon.

The facts are as follows: The decree was issued by the Nicaraguan authorities and was to take effect after promulgation throughout the Republic. It should have gone into effect in Bluefields November 12, 1896, and have continued for a period of six months from that time. Some of our merchants, acting on the decree, sold lard on the basis of the reduction of duty and ordered their supplies from the United States accordingly. But when they went to liquidate, the duty was added; and on making protest, they were informed that the decree would not be effective here until December 1. The various merchants complained to me in regard to the matter, and, acting in their behalf, I went to the Palace and had a talk with Col. Francisco E. Torres, the then acting intendant-general. After explaining the matter to him, he agreed to the following: Lard would be admitted free for December, 1896, and January, February, March, April, and May, 1897. In this way, the merchants here would have the benefit for a period of six months, but the duty collected would not be refunded. This arrangement was satisfactory to our merchants, as they thought that the agreement would be adhered to, and ordered and sold accordingly. But about December 12 last, the Government band marched from the Palace, and, stopping at the corner of King street, where the principal stores are located, an officer, delegated for that purpose, made public proclamation to the inhabitants of Bluefields, as well as to those of the department of Zelaya, that, in the judgment of Colonel Torres, the decree was not intended to apply to Bluefields, but only to the Nicaraguan ports on the Pacific Ocean, and hereafter duty would be collected on lard the same as though no decree had ever been issued by the President of Nicaragua. Colonel Torres issued orders to the customs officers at the Bluff to begin collecting duty on all lard then in the custom-house, and ever since the merchants have paid, and will continue paying, duty, unless a protest is made to the President in regard to the action of Colonel Torres in the matter. Many of our merchants had ordered and sold quantities of lard, acting on the promise of Colonel Torres.

* * * * * * *

I take the liberty of giving you the facts in the case that you may take such official action as the merits of the act demands.

M. J. CLANCY,
Consular Agent.

BLUEFIELDS, *February 20, 1897.*

REDUCTION OF DUTIES ON BICYCLES IN NICARAGUA.

By a decree of President Zelaya issued on the 9th of March, 1897, the duties on the importation of bicycles in Nicaragua are reduced to 5 centavos (equivalent to about 2.02 cents) for each pound, gross weight. Heretofore the duties on bicycles were 10 centavos, with a surcharge of 100 per cent, amounting to 20 centavos (about 9 cents) for each pound, gross weight. Bicycles sent to this country are put up in a skeleton frame, four of which are packed in a heavy, wooden box, and in this manner, for a bicycle that weighs 22 or 23 pounds, duty for 87 to 90 pounds was charged, the average weight of a box containing four bicycles being 350 pounds. While the duty on one bicycle was between 17 and 19 pesos ($8.06 to $9) under the old custom-house regulations, the present duty is between 4 and 4½ pesos ($1.90 to $2.13).

There can be no doubt that Nicaragua offers a good opening for the sale of bicycles. Three months ago not more than two bicycles could be seen on the streets of Managua, and in this whole consular district (which comprises the six largest cities in Nicaragua) only six bicycles were used; now, since some business houses have imported bicycles from the United States, the demand is daily increasing.

I would suggest that American manufacturers send to this country reliable agents or appoint such men residing in this country. Much has been written in consular reports about the drawbacks to the extension of commerce between the United States and Central America, and these will have to be considered again in the bicycle trade, for German houses are manufacturing brands of American bicycles, and, with their better facilities for cheaper freight to this country, will introduce them if American manufacturers do not get a solid foothold here in time.

The question how to promote American trade in Central and South America has been discussed again and again, and the problem has not yet been solved. It was suggested by some of our representatives abroad that American manufacturers and merchants should establish a kind of sample room; with price lists, at every consular office in order to advance American trade and to make the merits of American goods known in foreign countries. But I have grave doubts whether such a plan would prove to be of benefit to the American manufacturer and merchant or to the consular service. A United States consul is a commercial representative of his country, but not to the extent of acting as a drummer for American houses. American manufacturers and merchants wishing to extend their trade to a foreign country should send reliable agents who are familiar with the language and the customs of the country, who would study the financial standing of their customers and give the latter the same terms as they receive from other countries.

PAUL WIESIKE,
Consul.

MANAGUA, *March 16, 1897.*

CARBOLINEUM IN NICARAGUA.

On the 9th of March, 1897, the Government of Nicaragua issued a decree by which the duties on the importation of carbolineum are abolished.

Carbolineum, or crude carbolic acid, is used in this country to a great extent for the killing of insects, and will find a ready market here at this time of the year, when the dry season is giving place to the rainy one and obnoxious insects are abundant.

PAUL WIESIKE,
Consul.

MANAGUA, *March 15, 1897.*

GOODS SOLD ON COMMISSION IN NICARAGUA.

One hundred cases of beer have just been received from Germany, to be sold in San Juan del Norte on commission, the consignee to have 90 per cent of the net profit.

English beers and fancy groceries are sold here on commission, the consignees receiving from 50 to 90 per cent of the net profits.

The principal merchants refuse to handle staple articles on commission, preferring to buy their goods and keep all the profits. Every merchant, however, receives from five to twenty consignments a year of goods not ordered, but which he agrees to take at invoice prices. These shipments are made from Germany and England. It is seldom that goods so consigned are not accepted by the consignee.

I have heard a local merchant say that it would not take him four months to fill his store with German and English goods, to be either sold on commission at 90 per cent of the net profits or paid for at invoice prices anywhere from six to twelve months after the receipt of the goods.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *March 11, 1897.*

PROPOSALS FOR GOVERNMENT CONTRACTS IN THE ARGENTINE REPUBLIC.

In studying the different conditions surrounding foreign trade here, I became convinced some time ago that our manufacturers might be able to secure many Government contracts here were they enabled to promptly know of the proposals being made public.

Realizing that they could not do so under the plan now and heretofore followed by this Government, by which proposals are published only in London and bids received only by the Argentine legation there, I felt it would be well to present the case to this Government with the end in view of endeavoring to secure the publication in the United States of Government proposals simultaneously with their publication in London.

I did this in a note dated the 1st instant, a copy of which I inclose, together with a translation of the reply of the Minister of Foreign Relations. The reply of the Minister and the kindly interest taken in the subject by the President are encouraging.

I shall now do what I can to have the next proposals published in the United States at the same time they are published in London, and feel that the attention of our manufacturers might be advantageously called to the subject, as I believe we would be benefited by the adoption of the suggestions I took the liberty of submitting to the Minister of Foreign Relations.

WILLIAM I. BUCHANAN,
Minister.

BUENOS AYRES, *February 17, 1897.*

LEGATION OF THE UNITED STATES,
Buenos Ayres, February 1, 1897.

MR. MINISTER: Inasmuch as many manufacturers in the United States would, I feel sure, be glad to present bids for material required from time to time by the different branches of Your Excellency's Government, were they advised in time that such bids were being asked for, I respectfully beg to bring the subject to Your Excellency's attention.

If I am correctly informed, I infer that when Your Excellency's Government desires to purchase materials of whatever kind outside the Republic, it is customary to confine the publication of such proposals to London and the delivery of bids to Your Excellency's legation in that city. This arrangement, no doubt, permits the European manufacturers to submit their bids after careful analysis and computation by availing themselves of the time limit usually given in such proposals.

Such, however, is not the case with United States manufacturers. The limited number of London newspapers which reach the United States and the time consumed in their passage across the Atlantic places our manufacturers at a most decided disadvantage and usually makes it impossible for them to submit their bids to your legation in London within the time required. Then, again, their inability to consult with Your Excellency's representative in Washington regarding points not understood is another disadvantage.

Believing that the manufacturers of the United States could, in many instances, and would, had they the opportunity, agree to furnish material required by Your Excellency's Government for less than their European competitors, I venture to ask Your Excellency if it could not be arranged to publish such proposals as Your Excellency's Government asks, from time to time, for materials for the different branches of your Government service in, say, three newspapers in the United States, simultaneously with their publication in London or Europe.

I might further suggest that, in such event, bids could be submitted to the Argentine legation in London, as I understand the custom to be at this time, thus making no change in the present method beyond giving in the United States such timely public notice of proposals as would enable manufacturers to take time to properly prepare their bids and submit them to London before the time limit named in the proposals had expired.

If, in addition to this, Your Excellency's Government should find it possible to keep on file in the Argentine legation in Washington proposals with full information regarding the requirements demanded in such case, I am sure the people of the United States would feel greatly obliged and be most thankful.

I respectfully submit the above to Your Excellency's kindly consideration, in the belief that a modification of the plan now understood to be in operation in such cases, to some such extent as that I have ventured to submit, would be distinctly advantageous to Your Excellency's Government in an economic sense, and with the knowledge that such a change would also be a courtesy to the manufacturing interests of the United States which would be most heartily appreciated.

I shall personally be exceedingly pleased if the above suggestions merit Your Excellency's approval, and beg to remain, with sincere regard and high respect, Your Excellency's most obedient servant,

WILLIAM I. BUCHANAN.

MINISTRY OF FOREIGN RELATIONS,
Buenos Ayres, February 10, 1897.

MR. MINISTER: I have had the honor to receive Your Excellency's note dated February 1, in which you were kind enough to call my attention to the advantages which you believed would accrue to the national administration if the manufacturers of the United States were enabled to take part in the bidding for provisions and materials destined for the different branches of Government, and in which you, at the same time, indicated measures which would enable those interested to know beforehand the basis of the Government proposals so they can present their bids.

Said note being brought to the knowledge of His Excellency the President of the Republic, he has charged me to transmit it to the different ministers of the Government and ask them to kindly take the suggestions into consideration when opportunity offers.

With such motive, I reiterate to Your Excellency the assurances of my most distinguished consideration.

A. ALCORTA.

TARIFF OF BRITISH GUIANA.

I inclose a copy of the tariff ordinance of this colony for the year 1897–98; also, a statement taken from the Argosy, showing the increase and decrease on different articles as compared with last year. I would especially call attention to the heavy increase of duty on lumber and tobacco, nearly all being imported from the United States.

ANDREW J. PATTERSON,
Consul.

DEMERARA, *April 14, 1897.*

ORDINANCE NO. 4 of 1897.

AN ORDINANCE TO FIX A TARIFF OF DUTIES ON GOODS IMPORTED INTO THIS COLONY DURING THE FINANCIAL YEAR 1897–98.

Be it enacted by the governor of British Guiana, with the advice and consent of the combined court thereof, as follows:

1. This ordinance may be cited as the customs duties ordinance, 1897.

2. There shall be raised, levied, collected, and paid, for the public use of this colony, the several duties set forth in the first schedule to this ordinance upon all goods, wares, and merchandise enumerated in the said schedule which shall be imported into this colony or taken out of bond for consumption in this colony.

3. There shall be raised, levied, collected, and paid, for the public use of this colony, upon all goods, wares, and merchandise not enumerated in the first schedule to this ordinance, and not hereinafter exempted from payment of duty, which shall be imported into this colony or taken out of bond for consumption in this colony, an ad valorem duty at the rate of 10 per cent, or $10 upon every $100 of the value of such goods, wares, and merchandise at their respective places of shipment.

4. The goods, wares, and merchandise enumerated in the second schedule to this ordinance which shall be imported into this colony or taken out of bond for consumption in this colony shall be exempt from the payment of duty.

5. Goods not prohibited to be imported into or used in the colony, composed of any article liable to duty as a part or ingredient thereof, shall be chargeable with the full duty payable on such article, or, if composed of more than one article liable to duty, then with the full duty payable on the article charged with the highest rate of duty; provided that this section shall not apply in the case of any article being a compound of or containing opium, other than crude opium, and specially imported for medicinal purposes only.

6. No liquor containing more than 42 per cent of proof spirit as verified by Sykes's hydrometer shall be deemed wine, and no liquor containing more than 20 per cent of proof spirit as verified by Sykes's hydrometer shall be deemed malt liquor. All liquor containing more than 42 per cent of proof spirit verified as afore-

said and all liquor other than wine containing more than 20 per cent of proof spirit verified as aforesaid shall be deemed spirits.

7. (*a*) The provisions of the customs ordinance, 1884, which relate to the warehousing of goods, shall not be applicable to gunpowder imported into this colony; and the duty on all such gunpowder shall be paid immediately on importation.

(*b*) If the importer fails to pay such duty immediately, the consignee or agent of the vessel in which the gunpowder was imported may pay the duty and recover the amount thereof, together with the cost of storage and all other costs properly incurred, from the importer, in any court of competent jurisdiction.

8. For the purpose of encouraging the trade of this colony with other countries, persons exporting goods, wares, and merchandise on which duties have been paid under and by virtue of this or any other ordinance shall be entitled to a drawback of duties on such goods, wares, and merchandise at and after the rates and amounts levied and paid on such goods, wares, and merchandise; and the manner of claiming such drawback shall be subject to the provisions of the customs ordinance, 1884, and any other ordinance that may be hereafter passed by the governor, with the advice and consent of the court of policy, for the regulation of drawbacks; provided that no such drawback shall be allowed on any opium, bhang, or ganje, spirits of any kind, wine, or gunpowder; provided, also, that drawback shall only be allowed as regards animals in such cases as may have been or may be provided for by regulations from time to time made by the comptroller of customs with the approval of the governor in council; provided, also, that no drawback shall be allowed on any goods exported after the expiration of twelve months from the date of the importation thereof, or on any goods which, in the opinion of the governor in council, have been exported with a view to their reimportation.

9. It shall be lawful for the comptroller of customs to permit hard bread or crackers made in this colony from duty-paid flour to be exported under drawback, subject to such regulations in that behalf as may have been or may be from time to time made by the comptroller of customs with the approval of the governor in council.

10. Every person who contracts with Her Majesty's Government for the service of any of Her Majesty's regular troops stationed in this colony, or of any of Her Majesty's ships arriving at this colony, shall be entitled to receive back the amount of duty paid on materials or supplies furnished under such contract for the service of such troops or ships; provided that due proof is made of the payment of such duties, and that the nature and quantities of the materials or supplies furnished under such contract are duly certified by the officer commanding such troops or ship.

11. All moneys leviable or payable under and by virtue of this ordinance shall, unless their collection is otherwise specially provided for, be paid to the receiver-general or the assistant receiver-general.

12. (*a*) Whenever the duties upon goods, wares, and merchandise imported or taken out of bond for consumption in this colony payable by any one person or firm at any one time amount to or exceed the sum of $100, it shall be lawful for the receiver-general or the assistant receiver-general to take the joint and several promissory note of any such person or firm and of some other good and sufficient person or persons for the payment of such duties, payable thirty days after the date thereof.

(*b*) Every party to any such promissory note shall be deemed to be and shall be held liable in every respect as a principal debtor, to all intents and purposes, in any proceeding upon such promissory note at the instance of the receiver-general or the assistant receiver-general; and it shall not be competent to any party in any such proceeding to set up any defense other than might be set up by a principal debtor.

13. In default of payment, when due or demanded, of any of the duties imposed by this or any other ordinance relating to duties of customs, or of any promissory note allowed by this or any other ordinance relating to duties of customs to be given for duties, the same, with interest at the rate of 6 per cent per annum from the date when the same became due and payable, shall, where not otherwise specially provided for, be enforced and recovered by the receiver-general or the assistant receiver-general by parate execution.

14. All duties of customs shall be raised, levied, and collected subject to the provisions of any ordinance now in force or which may be hereafter passed by the governor, with the advice and consent of the court of policy, for the purpose of regulating the collection of duties of customs.

15. Any proceeding heretofore taken and any penalty or forfeiture heretofore incurred under the provisions of any ordinance relating to duties of customs which has ceased to be in operation may be continued or recovered as if such ordinance continued in operation; and all bonds taken and all things done under the authority or in pursuance of any ordinance relating to duties of customs which has ceased to be in operation shall be as valid and effectual and may be enforced in the manner as if such ordinance continued in force.

16. Where any obligation has been entered into for the payment of duties of customs, such obligation shall be deemed to be an obligation to pay all duties of customs which may become legally payable or which are made payable or recoverable under any ordinance relating to duties of customs for the time being in force and to pay the same as the same become payable.

17. This ordinance shall come into force on the publication thereof, and shall continue in force until and inclusive of the 31st of March, 1898, unless otherwise enacted by the combined court.

THE FIRST SCHEDULE.

Table of specific duties of customs.

Acid, acetic glacial	per gallon	$2.40
Arrowroot	per pound	.01
Bacon and bacon hams	do.	.02
Beef admitted by the comptroller of customs as salted or pickled, per barrel of 200 pounds		1.00
Blue	per pound	.00⅛
Bran, middlings, and shorts	do.	.00¼
Bread, navy biscuits, or crackers, or other kinds	per 100 pounds	.50
Bricks	per 1,000	1.00
Buckets and pails of all kinds	per dozen	.25
Bulls, cows (with or without calves), heifers, steers, and oxen	per head	5.00
Butter made from milk or cream	per pound	.02
Candles:		
Adamantine, hydraulic press composition, spermaceti, wax, or any other than simple tallow	per pound	.05
Tallow	do.	.01
Cards, playing	per pack of not more than 53 cards in each pack	.12
Cartridges, filled, for guns and rifles	per 100	1.50
Cement	per barrel of 400 pounds	.25
Cheese	per pound	.02
Chloral hydrate	do.	.30
Chloroform	do.	.72
Chocolate and cocoa, prepared otherwise than as confectionery	do.	.04

Cigars and cigarettes	per pound	$1.50
Clapboards	per 1,000 running feet	5.00
Coals, including the packages	per hogshead	.32
Patent fuel and coke, loose	per ton	.50
Cocoa, raw	per pound	.03
Cocoanut fiber	do	.01
Coffee and all imitations of and substitutes for it, chicory, dandelion, and taraxacum (raw)	per pound	.03
Collodion	per gallon	5.00
Confectionery, including sweetened preserves	per reputed pound	.05
Cordage, including gasketing	per 112 pounds	1.00
Corks, cut	per pound	.10
Corn or maize, crushed feed, and ground feed	do	.00¼
Corn brooms	per dozen	.20
Corn meal and oatmeal	per 100 pounds	.25
Dogs	per head	5.00
Donkeys	do	1.00
Dynamite, gun cotton, lithofracteur, and all other explosives (except gunpowder) admitted by the comptroller of customs as explosives for blasting purposes	per pound	.04
Gunpowder and fuses admitted by the comptroller of customs as explosives for blasting purposes	per pound	.01
Gunpowder and all other explosives other than fireworks not admitted by the comptroller of customs as explosives for blasting purposes	per pound	.20
Fireworks which, in the opinion of the comptroller of customs, are manufactured with a view to produce a pyrotechnic effect	per pound	.40
Essences, flavoring	per pint	.60
Ether:		
Acetic	per pound	.42
Sulphuric	per gallon	3.00
Ethyl, iodide of	do	3.00
Fish:		
Dried	per 112 pounds	.50
Pickled, say—		
Mackerel	per barrel of 200 pounds	1.00
Salmon	do	2.00
Other sorts (including trout)	do	.25
Preserved, in tins or bottles	per pound	.01
Smoked	do	.00⅛
Flour of all descriptions	per barrel of 196 pounds	1.00
Ganje	per pound	6.00
Garlic	do	.00¼
Gelatin	do	.05
Ghee	do	.02
Ginger, raw	do	.02
Goats, with or without kids	per head	.25
Grain of every description not otherwise specified, and every kind of beans, pease, and pulse of every description and every kind, and whether whole or split	per pound	.00¼
Gums	do	.03
Hair	do	.05
Hams and all other dried or smoked meats, including sausages other than in tins	per pound	.02

Hay and chaff	per 100 pounds	$0.10
Hogs and pigs of every description	per head	2.00
Honey	per pound	.05
Hoops:		
Iron	per 112 pounds	.10
Wood	per 1,000	1.50
Horses:		
Stallions under 14½ hands in height	per head	100.00
All others	do	10.00
Isinglass	per pound	.05
Lard	do	.01
Lard, compound or watered	do	.03
Lumber:*		
Dressed on one or both sides or grooved and tongued, per 1,000 feet board measure		5.00
All other kinds	per 1,000 feet board measure	3.00
Malt liquor:		
In wood	per gallon	.12
In bottles	per dozen reputed quarts	.30
Do	per dozen reputed pints	.15
Matches of all kinds, including Vestas	per 14,400	.50
Match splints, in cases containing each equal to 10 gross of matches of the ordinary length	per case	3.75
Meats:		
Fresh	per pound	.01½
Preserved, in tins	do	.02
Medicinal preparations made from or containing spirits (excluding patent or proprietary medicines)	per liquid gallon	.50
Milk, preserved, and compounds thereof	per pound	.01
Mules	per head	10.00
Muskets, rifles, guns, and fowling pieces	each	2.00
Oats	per pound	.00½
Oleomargarine and butterin substances	do	.02
Opium, including powdered opium for medicinal purposes, charas, and bhang	per pound	6.00
Extract of	do	12.00
Oils (other than gasoline or crude petroleum, when admitted with the sanction of the comptroller of customs, which give off an inflammable vapor at a temperature of less than 85° F., as ascertained by the test established in England by the petroleum act, 1879)	per gallon	3.00
Crude petroleum (when admitted with the sanction of the comptroller of customs)	per gallon	.05
All other, including castor oil and gasoline, when admitted with the sanction of the comptroller of customs (essential, medicinal, and perfumed oils excepted)	per gallon	.25
Paints and paint stuffs	per 112 pounds	.25
Percussion caps	per 100	.04
Pickles and sauces, in bottles	per quart	.04
Do	per pint	.02
Pistols, including revolvers	each	5.00

---

*Spruce and white pine lumber, not grooved, tongued, or dressed, to be subject to a reduction of 5 per cent for splits.

Pitch	per barrel	$0.50
Pork admitted by the comptroller of customs as salted or pickled, per barrel of 200 pounds		1.00
Rice	per 100 pounds	.35
Rosin	per barrel	.50
Sago	per pound	.01
Saltpeter	do	.01
Sheep	per head	1.00
Shingles of all kinds	per 1,000	.50
Shooks, per pack or packs containing shooks for 1 puncheon or 2 hogsheads or 3 barrels	per pack or packs	.08
Shot	per pound	.02
Slates (roofing), flagstones, and tiles	per 1,000	1.00
Snuff	per pound	1.50
Soap and soap powders, perfumery, fancy, and toilet	do	.02
All other kinds	do	.00½
Spices, pepper, and all seeds, except garden seeds	do	.01
Spirits and strong waters:		
For every gallon computed at Sykes's hydrometer proof of spirits of every description (except perfumed spirits), including naphtha or methylic alcohol purified so as to be potable, and mixtures and preparations containing spirits	per gallon	3.00
Perfumed—		
Not over proof, computed as above	per liquid gallon	3.00
Over proof, computed as above	do	6.00
Where a person importing sweetened spirits, liqueurs, bitters and cordials, or other preparations containing spirits in bottles has entered the same in such a manner as to indicate that the strength is not to be tested	per gallon	4.00
Spirits naphtha, methylic alcohol, methylated spirits, methylated ether, and methylated chloroform, passed by the comptroller of customs as being not potable	per gallon	.50
Starch of all kinds	per pound	.01
Staves and headings (white oak)	per 1,000	2.00
Staves of every other description	do	1.50
Stearin	per pound	.01
Sugar	do	.03
Tallow, antifriction grease, axle grease, and similar compounds	do	.01
Tapioca	do	.01
Tar	per barrel	.50
Tea	per pound	.12
Tobacco:*		
In leaf—		
If in packages containing not less than 800 pounds—		
Containing 10 pounds or more of moisture in every 100 pounds weight thereof	per pound	.60
Containing less than 10 pounds of moisture in every 100 pounds weight thereof	per pound	.75
If in packages containing less than 800 pounds—		
Containing 10 pounds or more of moisture in every 100 pounds weight thereof	per pound	.75

---

* Duty on tobacco to be paid on the weight being certified, either by a sworn weigher and gauger or otherwise, to the satisfaction of the comptroller of customs.

Tobacco—Continued.		
In leaf—Continued.		
If in packages containing less than 800 pounds—Continued.		
Containing less than 10 pounds of moisture in every 100 pounds weight thereof	per pound	$0.90
Manufactured (cigars, cigarettes, and snuff excepted)	do	.90
Tobacco pipes (clay)	per gross	1.00
Tongues (pickled, dried, or smoked)	per pound	.02
Turpentine:		
Crude	per gallon	.50
Spirits of	do	.18
Twine	per pound	.02
Varnish and polish:		
Not containing spirits	per gallon	.18
Containing any quantity of spirits methylated so as not to be potable	per gallon	.50
Containing any quantity of spirits of any other kind, to pay duty as mixtures or preparations containing spirits.		
(The article known as "international composition," or "Rahtjen's composition," and any other article which, in the opinion of the comptroller of customs, is of a similar kind, to be regarded as varnish and polish containing spirits.)		
Vegetables, preserved, in tins	per pound	.02
Vinegar and substitutes for vinegar:		
Containing less than 10 per cent of acetic acid	per gallon	.10
Containing 10 per cent and more of acetic acid, and acetic acid	do	.60
Waters, aërated or mineral	per dozen reputed pints	.08
Wax:		
Bees'	per pound	.06
Paraffin and mineral	do	.02
Whitening, except when imported for manure	do	.00⅛
Wine, the declared value of which is any sum not exceeding $2 a gallon, and containing less than 26 per cent of proof spirit as verified by Sykes's hydrometer:		
In wood	per gallon	.55
In bottle	per dozen reputed quarts	1.20
Do	per dozen reputed pints	.60
Of all other descriptions, in wood	per gallon	.88
In bottle	per dozen reputed quarts	2.40
Do	per dozen reputed pints	1.20
Yeast cakes and compressed yeast	per pound	.06

And at these rates upon any greater or less quantity of such goods, wares, and merchandise, respectively.

Table of exemptions from duty.

Animals (alive), to include only cattle, which are proved to the satisfaction of the comptroller of customs, to be imported for breeding purposes, mongooses or ichneumons, and poultry.

Animal charcoal.

Articles incorporated for the use of the pilot service of the colony.

Articles passed by the customs authorities as the personal baggage of passengers arriving in the colony from abroad.

Articles passed by the comptroller of customs, subject to the sanction of the governor, as imported for the official use of the consulate of any foreign country or place; provided that a similar privilege in respect of similar articles is accorded by the laws and customs of such foreign country or place to Her Majesty's consulate therein.

Broken stones and road metal of every description.

Bullion and coin.

Cotton seeds.

Fire engines.

Fresh fish and turtle.

Fruits, vegetables, and ground provisions not preserved and not enumerated in the table of specific duties of customs.

Goods, stores, arms, and ammunition imported by order of the governor of the colony.

Horses, baggage, and furniture of officers in Her Majesty's naval or military service.

Ice.

Lime of all kinds.

Machinery, comprising the following: Brick and tile making machinery; iron cane punts, iron bridges, and grating bars; locks or sluices for sea defenses or water supply; locomotive engines and railway plant; launches of all kinds; machinery and wire for electric lighting; machinery and implements intended for waterworks, tanks, and lamp-posts, with their appurtenances; paving and curb stones and draining pipes and such other machinery; ironwork or goods as may be approved by the governor in council imported by the mayor and town council of Georgetown or New Amsterdam exclusively for their own use; machinery imported for the drainage of land or for use in mining operations, or in the manufacture or preparation of the produce of raw materials, or in the manufacture or preparation of manures, whether imported for sale or on private account; machinery for sawmills, foundries, and factories of whatever kind; machinery for steamboats and barges, and plates, angles, and other materials and appliances for the construction of steamboats and barges; machinery, retorts, gasometers, and pipes imported for the construction of gas works in the colony; pans, teaches, tanks, and other vessels imported for use exclusively in the manufacture of sugar or for the storage or supply of water; steam boilers of every description and steam-boiler plates and tubes; and steam plows, steam diggers, and steam dredgers.

Manures, including nitrate of soda, plaster of paris, and whitening.

Materials and church furniture specially imported for any place of worship of the Christian religion in the colony.

Packages in which goods are imported, including carboys, bottles, and other vessels, except trunks and canisters, and except hogsheads and puncheons not containing coals, lime, wines, or spirits.

Patterns and samples subject to any regulations in that behalf made by the governor in council.

Photographs and engravings, unframed.

Printed books not subject to duty under ordinance No. 14 of 1851 and manuscript.

Printing presses and types, printing paper, and printing ink, imported by or directly for the conductor of any newspaper or printing establishment for the exclusive purpose of being used by him in the course of his trade.

Provisions and stores of every description imported by Her Majesty's Government for the use of Her Majesty's naval or military forces.

Salt.

Sewing machines.

Specimens illustrative of natural history (garden seeds, bulbs and roots, trees, plants, vines, and seeds and grains of all kinds for propagation or cultivation.)

Telegraph instruments and other materials imported by telegraph companies and necessary for the construction and use of their works, offices, and stations in the colony.

Uniforms, arms, ammunition, accouterments, and prizes imported by and for the use of Her Majesty's naval or military forces, or the colonial militia, or any volunteer force or rifle association sanctioned by the governor.

Wines, spirituous liquors, and stores imported by and for the use of the governor.

All steam and other vessels, locomotives, carriages, rolling stock, rails, and such other material and appliances not herein already exempted as the governor in council considers necessary for the construction and maintenance of a railway between the Demerara River and Essequibo River in terms of the contract dated the 11th of December, 1893, made between the Sproston Dock and Foundry Company and the Government of this colony.

All stores landed from an immigrant vessel for the purpose of feeding the immigrants conveyed thereby in terms of contract of conveyance and subsequently certified by the immigration agent-general to have been so used.

All materials for use in railways or other special works which, in the opinion of the governor in council, may be useful in the development of the resources of the interior of the colony.

[From the Argosy, Demerara, March 20, 1897.]

Customs-duties ordinance.

Item.	1896-97.	Increase.	Decrease.	1897-98.
Glacial acetic acid……per gallon…	Free.	$2.40	……	$2.40
Playing cards, not more than 53 cards in pack……	$0.06	.06	……	.12
Cigars and cigarettes……per pound…	2.00	……	$0.50	1.50
Clapboards……per 1,000 running feet…	1.00	4.00	……	5.00
Cocoanut fiber……per pound…	Free.	.01	……	.01
Dressed lumber, or grooved and tongued……per 1,000 feet…	3.00	2.00	……	5.00
Lumber of other kinds……do……	2.00	1.00	……	3.00
Matches of all kinds……per 14,400…	.60	……	.10	.50
Pepper……per pound…	.01	……	.01	Free.
Spirits and strong waters……per gallon…	2.75	.25	……	3.00
Stearin……per pound…	.01½	……	.00½	.01
Tobacco in leaf:				
In packages of not less than 800 pounds, with 10 per cent moisture and over……per pound…	.40	.20	……	.60
In packages of not less than 800 pounds, with less than 10 per cent moisture……per pound…	.40	.35	……	.75
In packages of less than 800 pounds, with 10 per cent moisture and over……per pound…	.55	.20	……	.75
In packages of less than 800 pounds, with less than 10 per cent moisture……per pound…	.55	.35	……	.90
Wine, the declared value of which is not more than $2 per gallon and with less than 26 per cent proof spirit:				
In bottles……per dozen reputed quarts…	1.10	.10	……	1.20
Do……per dozen reputed pints…	.55	.05	……	.60
Of all other descriptions:				
In bottles……per dozen reputed quarts…	2.20	.20	……	2.40
Do……per dozen reputed pints…	1.10	.10	……	1.20

Tax ordinance.

Item.	1896–97.	Increase.	Decrease.	1897–98.
Land not beneficially occupied ... per acre	Free.	$0.03		$0.03
Classes under which spirit licenses are paid, all reduced by 15 per cent, except—				
Seventeenth class	285 gals.	65 gals.		350 gals.
Eighteenth class, added				240 gals.
Retail spirit license:				
Seventeenth class	$252.00	108.00		$360.00
Eighteenth class, added				252.00
Bills of exchange, promissory notes (inland only):				
For every sum not exceeding $24	.02	.02		.04
For every sum not exceeding $48	.04	.04		.08
For every sum not exceeding $120	.06	.06		.12
For every sum not exceeding $240	.12	.12		.24
For every sum not exceeding $360	.18	.18		.36
For every sum not exceeding $480	.24	.24		.48
For every additional $480 or part	.24	.24		.48
(All foreign bills and notes excepted, and other exemptions as before.)				
Legacy and succession duties:				
When property goes to husband, wife, or child				1 per cent.
Other than above				2 per cent.
Huckster's license	4.00		2.00	2.00
License for omnibus or tram car plying for hire in New Amsterdam or Georgetown	12.00	13.00		25.00
License for bicycle or other cycle	Free.	3.00		3.00
(Exemptions: Property of Government or of child under 10.)				
Bicycle or other cycle, for hire	Free.	6.00		6.00

The following alterations were made:

(1) Any horse, pony, mule, donkey, or cart belonging to and used in the service of, *and within the bounds of*, any sugar plantation, as defined by the roads ordinance, or any woodcutting grant, cattle farm, cocoa estate, *mining claim or placer*, or private grant shall not require a license. The words in italics indicate the changes made.

(2) The words *for money or reward in any church, chapel, or schoolroom* were struck out of the proviso in favor of entertainments for the exclusive benefit of any purely religious, educational, or charitable object.

(3) A clause was added providing that any vessel carrying mails and entering a port in this colony shall, in the event of a return to a port in this colony within twenty-one days from departure from the first port of call, be liable to pay only such tonnage dues as might be chargeable on the difference between her registered tonnage and the number of tons on which dues had been paid at the first port of call.

EXPORT DUTY ON COFFEE IN COLOMBIA.

I inclose a translation of the new tariff law relating to the reduction of the export duty on coffee.

LAW 37 OF OCTOBER 14, 1896, IN REFERENCE TO THE DUTY ON COFFEE.

The Congress of Colombia decrees:

ARTICLE 1. The duties on coffee exported through the ports of the Republic shall be 50 cents per 50 kilograms (20 cents per 108 pounds) on coffee in grain and 40 cents each 50 kilograms (16 cents per 108 pounds) on coffee in husk.

ART. 2. The Executive power is authorized to diminish or abolish the present duty on coffee, should this article suffer a great depreciation in foreign or local markets.

ART. 3. Article 2 of Executive decree No. 75 of 1895 is hereby repealed.

The above law went into effect on the 13th of January, 1897.

Article 2, referred to in article 3, is the decree which placed an export tax of 32 pesos ($15.68) per ton of 1,000 kilograms (2,204.6 pounds) on coffee in grain and 24 pesos ($11.36) on coffee in the husk.

JOHN BIDLAKE,
Consul.

BARRANQUILLA, *February 20, 1897.*

AGRICULTURAL CONDITIONS IN HONDURAS.

Mr. R. J. Paquin, of Red Fork, Ind. Ter., has received a letter from the President of Honduras in response to an inquiry as to the possibilities of coffee culture in that country. Mr. Paquin has consented to the publication of the letter, a translation of which is as follows:

ESTEEMED SIR: I have the pleasure to refer to your letter of last January. I am able to assure you, without any fear of making a mistake or seeming to exaggerate, that, among all the States of Central America, Honduras is the one whose lands are best adapted to the cultivation of coffee, the best of said lands being in the departments of Capán, Santa Barbara, Yoro, Cortez, and Olancho, which have the advantage of being situated near the coast; in the interior, the best lands are those in the departments of El Paraíso, La Paz, and Comayagua.

I think it well to remind you that, owing to the vast extent and the sparse population of the territory of Honduras, it is very difficult to secure a sufficient number of hands for agricultural labor. This difficulty, however, may be overcome if the party engaging in an enterprise brings with him or imports foreign laborers, who are liberally protected by the law governing agriculture.

The difficulty in question would likewise disappear if you should prefer lands situated near the towns; but these lands, beside not being so good as the others, unfortunately belong to the towns, and in order to acquire 50 manzanas (the manzana is a measure of 100 yards square), which is the maximum amount that can be granted to one person, it would be necessary to pay annually the sum of 25 cents per manzana as rent.

As regards the lands belonging to the nation, they may be had gratuitously, in proportion to the magnitude of the enterprise that is to be set on foot; and the Government will have no objection to making concessions which would greatly facilitate the success of the enterprise.

The cost of plantations is ordinarily $150 for each thousand trees, and the average production of each tree is 2 pounds per annum after the second crop.

Honduras is distinguished, moreover, among the countries of America by the abundance and wealth of its mines of all sorts, so that I can assure you that any enterprise of this kind that should be earnestly established and well directed would find in the entire territory valuable veins that could be successfully worked. Nevertheless, the departments of the State which promise most in this regard are Choluteca, which borders on the Pacific and which abounds in rich gold mines; Olancho, near the northern coast, in which there are numerous gold-bearing placers and rivers bearing highly valuable sands of gold; and those of Comayagua, El Paraíso, and Tegucigalpa, which contain silver mines that have never been worked.

In order to acquire any mineral zone, a claim to it must be presented to the Government, which recognizes it, provided it does not affect rights previously acquired by another person or company. The party receiving the concession is then required to pay an annual tax of 25 cents for each manzana of land.

Transportation generally takes place by means of beasts of burden, and in some departments by means of carts, the amount paid for both being relatively low.

The inhabitants of Honduras are generous and hospitable to foreigners, and their laws are liberal and afford ample protection to immigrants coming to the country to engage in honest labor.

The territory of Honduras is intersected with hills and valleys, and its climate is exceedingly varied. On the coasts, it is hot; but in the interior, on the tablelands and in the valleys, it is temperate, delightful, and, in some places, cold. This variety of climate renders the country suitable for the cultivation of almost all the agricultural products of every zone. The only line of railway in the country starts from Puerto Cortez, on the Atlantic coast, is 52 miles long, and terminates at La Pimienta, crossing the large and fertile valley of El Sula from north to south.

I think it well to say that, before entering upon an enterprise the success of which might be doubtful, it would be well for you or for some other person having experience in such matters, and in whom you have confidence, to come to the country and do some prospecting work, in order to ascertain beforehand what you may have to expect as regards the result of your future agricultural or mining enterprises.

I am, with much regard, your faithful and obedient servant,

P. BONILLA.

PUERTO CORTEZ CLOSED TO COMMERCE.

I have received a telegram from the Diet of the Greater Republic of Central America, at San Salvador, announcing that the Government of Honduras has temporarily closed the port of Puerto Cortez to foreign and coastwise commerce. I inclose copy of the decree.

MACGRANE COXE,
Minister.

GUATEMALA, *April 24, 1897.*

[Translation.]

SAN SALVADOR, *April 24, 1897.*

To the Minister of the United States, Guatemala:

On the 14th of the current month the Executive power of Honduras promulgated a decree, which provides—

(1) That the port of Puerto Cortez and its tributaries shall be temporarily closed to foreign and coastwise commerce until the power of the legitimate authority is reestablished in that section of the country.

(2) Merchandise which may be entered at the custom-house shall not be examined for withdrawal, and in case any shall be so examined for withdrawal, the importers shall remain indebted for the proper duties under the pain of being considered as defrauders of the public revenue.

E. MENDOZA.

THE FEDERAL MOVEMENT IN AUSTRALIA.

As no historic event could possibly be of greater interest to civilized people than that of the building of a nation, the eyes of statesmen, jurists, politicians, and students will soon be directed to this new quarter of the globe and centered on Australia. Here is a splendid continent, nearly as large in superficial area as our grand United States and Territories (aside from Alaska), separated from other countries by thousands of miles of sea; owned and occupied by a people of the same color, blood, and race; speaking the same language, believing the same religion, enjoying the same kind and degree of civilization, who are children of the same ancestors, and who possess in no degenerate degree the sturdy traits that have made Britain the commercial mistress of the world. They are the same kind of people, who, by the exercise of the same qualities in America have reached a civilization which is a marvel of all the ages, and have become the most wealthy and commercial people per capita on the globe. They have awakened to a higher destiny and are laying the foundations for a broader nationhood. "United Australia" has become the popular cry by a large class of the Australian people. Federation is now in the domain of practical politics. The provincial legislatures have passed "enabling acts," the time for the elections has been agreed upon (March 4), candidates are in the field, and soon a convention composed of able and patriotic men will meet (April 22) to prepare a constitution for the new commonwealth—for an Australian nation.

What splendid opportunities, what enormous possibilities, are open for the people of these antipodal regions. How peculiarly favored they seem to be, how rapid has been the march of historic events, and by what lessons they may profit, in laying the foundations of government on the broad principles of enlightened justice.

The motive impelling the formation of every other federation the world ever knew has been a "common danger." In all other unions, mutual fears have suggested mutual concessions, that made possible concerted action. This is a new experience in the world's history. The federal sentiment of Australia was not born of passion, of prejudice, of fear, or even of patriotism. It was the child of deliberation. It grew from the germ of good sense, inherent in a class disposed to peace and devoted to commercial and industrial progress.

In the development of the federal spirit, there has been no fear, no romance, no clash of arms, no clamor, no appeals to pride, prejudice, rivalry, or even to old-styled "patriotism;" but cool business men have seen the folly of local jealousies, the disadvantages of conflicting tariffs and warring revenue schemes, and have determined to remodel the government, that the governed may realize a higher destiny. No people are more free than these self-governing Australians, and no people are more ready to assume the duties and responsibilities providing for their own well-being.

But a few years ago, all Australia, including Tasmania, east of the one hundred and twenty-ninth meridian, was practically governed from Sydney, and when it was believed to be advantageous to the people to divide the territory, they divided. Now that conditions have changed and the people believe it to be to their advantage, they propose, on federal lines, to reunite.

Before South Australia was organized, the area practically under the jurisdiction of the Queen's representative at Sydney was 1,996,000 square miles. Victoria was carved out of New South Wales in 1851 and Queensland in 1857. There are now seven Australasian colonies, to wit, New South Wales, Victoria, Queensland, South Australia, Western Australia, Tasmania, and New Zealand, the first five being on the continent of Australia, while the latter are islands. New Zealand, 1,200 miles from the mainland, with an area of 104,471 miles, has, at present at least, no intention of joining the Australian federation, while the island of Tasmania, being but a few hours' sail from the mainland, is most anxious for the union.

The federal movement in Australia is by no means new, as before remarked, for even as early as the separation of Victoria, Earl Grey advised the introduction of some scheme for legislating on questions of general concern to the colonies. In 1853, there was another effort to provide for a legislative authority for certain purposes affecting general colonial interests.

In 1883, under an impulse of danger from aggressive movements of France and Germany among the Pacific islands, the colonies requested, and the imperial Parliament passed, an act providing for a federal council, with limited authority regarding colonial affairs, leaving it to the discretion of the respective colonies to avail themselves of the privilege of the loose and imperfect union. Four of the colonies joined—Victoria, Queensland, Tasmania, and Western Australia. This so-called "council" is yet in existence, but of practically no value.

In 1889, Major-General Edwards, an inspection officer of the British Government, after a careful study of Australia's requirements, recommended a "military federation." Taking advantage of this, Sir Henry Parkes, who for a generation had been the most conspicuous character in Australian public life, inaugurated a new federal movement. Following this, in 1890, an intercolonial conference was held in Melbourne, at which, I believe, all the colonies were represented, and in 1891, a convention was held in Sydney for the purpose of considering a federal scheme and of suggesting plans for future federal action. This convention was composed of learned, careful, deliberate, and able men, judging by their work, for the result was the so-called "draft bill" to constitute the "Commonwealth of Australia."

This bill is "tinted" with many federal schemes, past and present, but there is evidence all through it that the constitution of the United States and the working of our federal system had been most carefully kept in view. I say our system was "kept in view" on the draft bill, but I regret the evidence of its being very poorly understood.

However, this draft bill was meant as a tangible starting point, that discussion might lead to the crystallization of some really practical plan that would commend itself to the people. The commonwealth bill was discussed, praised, and criticised with sufficient vehemence, zeal, or ability to exercise valuable educational influences.

It was intended that it should be brought before the colonial parliaments at an early date, but the bickerings over local affairs left no time for such remote questions, so "federation" was again relegated to the realms of silence. In 1893, however, there was a new movement, and this was pushed with sufficient vigor to arouse a new interest in the question. The unusual crisis that swept over the whole of Australasia like the "besom of destruction" in 1893, leaving the local parliaments helpless in the face of such stupendous emergencies, lent itself well to the new movement.

At Bendigo, in Victoria, a conference of delegates from the different federal leagues in Australia met in 1893 and having the benefit of past discussion and the work of the 1891 convention to aid them, new life was infused into the federal movement by the patriotic conferees. To harmonize all the friendly forces, the commonwealth bill was the basis of discussion and action. At this conference it was suggested that the colonial parliaments should pass uniform enabling acts providing for a convention, elected by the people of the participating colonies, to form a constitution for the future government of the commonwealth, the constitution so formed to be submitted to the people for approval or rejection, and, if accepted by a sufficient number of the colonies, it was to be submitted to the imperial Parliament for approval. Since the Bendigo conference, "federation" has been in the air, but not until recently has it been accepted as an issue in practical politics. The English people will not be hurried. In this regard, the Australians are more English than their English brothers.

Since the Bendigo conference, the venerable Sir Henry Parkes, who recently died at the age of 82, and who had been a conspicuous figure in Australian public life for more than half a century, had been untiring in his efforts to arouse his countrymen to the advisability of federation. But a few weeks before his death, the old statesman often took long journeys into the interior to address the people on his favorite theme, and my opinion of British character leads me to believe that his failure was due to his effort to excite a feeling of alarm among the people, when only business needed discussion. These people will not be alarmed at anything; their confidence in the strength of the British Empire is unlimited.

However, the present Premier of New South Wales, Mr. George H. Reid, who was vigorously opposed to federation, having changed his opinions with changed conditions or with the reversed relative strength and importance of the colonies, gave a practical turn to the federal movement early in 1895 by an invitation to the premiers of the other colonies to meet in general conference in Hobart in January for the consideration of federal affairs. All the premiers were present and an "enabling bill" was drafted, which five premiers pledged themselves to lay before their respective parliaments.

But local affairs took precedence, and there was again considerable delay. In the "mother colony"—New South Wales—the delay was almost vexatious. Mr. Reid's new-born zeal for federation was jeered, his motives were impugned, and his actions bitterly criticised. Then, too, under the leadership of Mr. Reid, New South Wales had become a free-trade colony; her ports were made the most open on the globe, her dutiable list the shortest, and her customs laws the briefest and most comprehensive. It was boldly flung in Mr. Reid's face that he had strangled federation by his free-trade policy, as "Victoria's purpose for desiring federation was accomplished. She could now enter New South Wales markets, and so federation with her was at an end." But Mr. Reid was immovable and seemed willing to bide his time.

But the fears of the opposition were ill founded, for Victoria's desire for federation soon became as enthusiastic as the cool temper of the British character would permit.

Victoria, Tasmania, and South Australia were ready to pass the enabling acts, and seemingly slow Mr. Reid, taking his own time even under the lash, secured the passage of the act in December, 1895, and thus opened the federal campaign in earnest.

The bill provides that each colony desiring to participate shall elect ten delegates; that such delegation shall meet and frame a constitution; that the convention then adjourn for not less than sixty nor more than one hundred and twenty days; that during the interval the several colonial parliaments shall consider such constitution, with the right to offer any desired amendments; that the convention shall again meet together for the purpose of considering and readopting the constitution; that the constitution thus adopted shall, as soon as practicable, be submitted to the people for approval or rejection; and that, if accepted by three of the participating colonies, the British Parliament shall be asked to pass it into law.

"No hurry" was again the motto of those in whose hands all political power is placed in countries governed by the British parliamentary system. But again, as in the case of the Bendigo conference, the people—the nonofficeholding class—took up the question, and a large representative convention was held at Bathurst last November for the purpose of general discussion and for urging forward the work of federation. Several colonies were represented, and the "commonwealth bill" was the basis of deliberation.

Several of the most able federalists and statesmen, including the New South Wales Premier and Cardinal Moran, participated in the work of the convention. The public drank deeply from the knowledge diffused by the discussion, and probably, for the first time, the great mass of the people to be affected by federation began to feel a real interest in the question. Since then, the movement has steadily gained ground.

Now, the "writs" have been issued—the elections will be held March 4—the convention will meet on April 22, and it is earnestly hoped that its labors may herald the birth of a new nation.

But the path to federation is by no means a smooth one. The lash of necessity can not be applied in this case. The delegates of the several colonies represented will simply endeavor to get satisfactory terms in the business copartnership. To secure terms satisfactory to those most concerned will require the highest order of ability, while to define those interests in a permanent written compact will necessitate much statecraft and political acumen.

While the people of whom the proposed state is to be composed have more in common and have less conflicting traits than those forming any federation with which I am acquainted, there are complex local features interwoven in their social organization. In no country on the globe are the functions of the state so numerous and so varied; in no country does the authority of the state reach so near the basis of the industrial machine or affect so intimately private life.

First, let us look at the area and population of the respective colonies, leaving out, of course, New Zealand, as she is not in the federal movement:

Colonies.	Area.	Population, 1891.
	Sq. miles.	
New South Wales	310,700	1,132,234
Victoria	87,884	1,140,405
Queensland	668,497	393,718
South Australia	903,690	320,431
Western Australia	975,920	149,782
Tasmania	26,215	146,667

Of course, these inequalities as to area and population would be small barriers, as they are no greater than are presented in the United States and less than those of the Germanic federation. But the real difficulties lie in the social structure of the various colonies, not because of dissimilarity, but because of peculiarly local conditions. These difficulties, as might be expected in a business transaction, are almost wholly financial and lie close to the roots of the social structure.

The Australian colonies have done more to sustain the claims of the visionary theorists than any other people. In no civilized country has the government more authority. In no country are social, political, and business interests so intimately connected. In most of the Australian colonies, by far the greater portion of the lands are owned by the Government. The railways, the street cars, the telegraph and telephone service, the deep-water wharves, the sewers, etc., which in most countries are held by corporations and monopolies, are owned by the people and operated by the people for the benefit of the people. But back of these "public utilities," as is the case with our private enterprises, there are vast debts; then, as such utilities—railroads, etc.—are the assets of our great corporations, they are also the assets of these colonial governments or states.

No civilized people are so deeply in debt per capita as the people of Australia; yet, if the assets are placed against the debts, with due consideration for their reproductiveness, there is no people so well situated financially.

The facts for the following table I take from Mr. Coghlan's Seven Colonies. This table shows approximately the public debt of the six colonies under discussion in the fiscal year 1895–96. I say approximately, for, as statistical precision is not necessary in this case, I have converted pounds into dollars by multiplying by five instead of by 4.86.

Colonies.	Public debt.	Per capita, about—
New South Wales	$300,000,000	$240
Victoria	230,000,000	200
Queensland	160,000,000	340
South Australia	120,000,000	330
Western Australia	23,000,000	190
Tasmania	40,000,000	250

As against about $20 per capita in the United States, this debt seems a crushing burden for any people.

As previously stated, the railways in Australasia are owned and operated by the colonial governments and constitute one of the chief assets of the countries. The following gives statistics as to railways:

Colonies.	Length.	Approximate cost.
	Miles.	
New South Wales	2,616	$180,000,000
Victoria	3,103	185,000,000
Queensland	2,379	80,000,000
South Australia	1,887	65,000,000
Western Australia	1,145	10,000,000
Tasmania	475	16,000,000

These public railways are the reproductive public assets, and when placed against the public debt—created chiefly for constructing them—the burden is materially reduced. The interest paid for the capital with which to build the roads bears, on the average, 3.9 per cent, and as they were built for the purpose of affording the people cheap traffic rates, they have been run not at a profit, but at a slight loss—an average of 0.92 per cent. The roads of New South Wales for 1884–85 ran at a loss of less than one-fifth of 1 per cent, while this year, I am informed, they will furnish a net revenue equal to the interest on total cost.

The following table I take from the CONSULAR REPORTS of September, 1894, in which I gave the assets of New South Wales:

Value of public tramways and railways	$191, 512, 600	
Value of waterworks	16, 387, 920	
Value of sewers	7, 796, 000	
Value of docks and wharves	8, 748, 000	
Value of telegraphs and telephones	3, 888, 000	
Total reproductive utilities	228, 332, 520	
Net revenue		$7, 027, 560
Value of leased lands	408, 726, 000	
Revenue from rents		4, 548, 960
Due on land sales	68, 526, 000	
Interest on same		1, 807, 920
Total revenue from public property		13, 384, 440

It will be seen by the above that the public assets, the chief value of which arose from the public utilities created by the public debt, by far exceed the public debt, and that the revenue from the public assets considerably exceeds the total interest on the public debt. Financially, I regard the Government of New South Wales as in the best condition of any country with which I am acquainted.

Of the 198,000,000 acres of land in New South Wales, but 42,000,000 acres are alienated; 132,000,000 acres are leased, yielding an annual revenue of $4,500,000. Of Victoria's 56,250,000 acres, about 22,000,000 acres are alienated, while the leased lands yield a revenue of about $2,250,000; and of the 427,800,000 acres of Queensland, but about 13,000,000 acres are alienated, while the revenues from the leased lands yield about $2,800,000 per year.

The policy of government ownership of public utilities is here firmly established, while the sentiment regarding the restriction of private ownership of lands is gaining ground.

Queensland, with a territory twelve times as large as that of Iowa, has three independent systems of railway, reaching inland from three widely separated points on the eastern coast. Queensland is capable of enormous development, and I think she rents more extensively and is more just and generous than any landlord on the globe.

There are stupendous difficulties in the way of federation, not because of the vast difference in the area, wealth, or population of the different colonies, but by reason of their peculiar domestic policies, as before vaguely referred to.

As there is a very strong feeling throughout most of the colonies against the immigration of "inferior races," especially of the dark races, and as Queensland now imports large numbers of South Sea Islanders (called Kanakas) to work in her sugar fields, that colony declines, at present, to join in the coming federation convention, though it is certainly her destiny to become part of the great Australian "nation." Western Australia, too, being unable to spare time from her local affairs, though in favor of the movement, will wait and compare her necessities with the promises of the new constitution.

Even with these two colonies out, the difficulties are sufficiently grave to make the result of the coming convention uncertain. One of the most perplexing obstacles to commerce in Australasia has been the colonial or border-customs duties. More earnest and more emphatic than in the United States has been the conflict between the rival policies of "free trade" and "protection," for here the definitions are not confusing. Here it is free trade versus protection, with the latter policy prevailing in various degrees in five of the seven Australasian colonies.

If the duties of the various colonies were calculated by goods imported from the United States, the average would stand as follows: New South Wales, free; Queensland, 34 per cent; Victoria, 36 per cent; South Australia, 28 per cent; Tasmania, 25 per cent; and Western Australia, 18 per cent. Such tariffs would be regarded as approaching "free trade" in the United States, but here they are considered very high, and cause bitter and constant political warfare.

The necessity for intercolonial free trade in the proposed federation is conceded, but this does not mean that the plan gives satisfaction. New South Wales, the most wealthy, populous, and influential colony, is strongly wedded to free trade on broad grounds, while Victoria probably advocates protection as strongly. On the tariff question, then, New South Wales has nothing to gain, as her ports are now the most free on the globe, while she has much to lose (from her standpoint), as the federal power will certaintly impose a protective duty against the outside world. As regards New South Wales markets, the protective colonies have nothing to gain, except freedom from competition with "free" entered goods.

For the sake of other advantages, New South Wales seems ready to compromise on a general tariff against the outside world, but such a policy may entirely turn the current of fiscal sentiment. With free intercolonial trade, New South Wales, with her vast stores of coal, tin, iron, and timber, is sure to become the manufacturing center of Australasia, and then she may adopt "protection," while the others will be likely to drift in an opposite direction.

I think it safe to predict that the tariff law for the new commonwealth will be simple and explicit, with free trade between the "high contracting parties," but an average duty of, say, 28 per cent on dutiable goods against the outside world, the average being raised by a high protective duty on iron and steel, woolen goods, and machinery.

But the most perplexing problem seems to be the financial one. This includes the question of consolidating and handing over the public debts of the federated colonies, as well as the public utilities, including assets of various kinds, especially the railways. There are many able men now before the public as candidates for the convention, and they are very much divided and confused on this phase of the question.

For the federal government to assume the public debt without taking over the assets would enrich the states, of course, but it would leave the new federal government so burdened with debt as to necessitate a degree of federal taxation that could not fail to create discontent; while to take over both debts and assets would not only retard local development, but would raise an outcry from the people who have learned to feel an immediate ownership, and exercise a direct control, over the utilities constituting the assets. Sydney is the heart of New South Wales, and (as they say) "we" (the people) own "our" railways, "our" lands, "our" tramways, etc., and though Sydney might become the federal capital, to transfer these things to federal ownership would be taking them out of "our" hands and removing them from "our" control. It seems to me it would not be tolerated, and an effort to turn over these assets by the proposed constitution would mean a rejection of the constitution by the people. Even if such a move were equitable, it is doubtful if the people, who regard themselves as the proper owners and custodians of these public utilities, would sanction a transfer of them to an authority beyond the radius of their immediate influence. But, as has been noticed above, there is an enormous inequality in the debts, as well as in the value of the assets.

It might be wise and more in harmony with public sentiment to leave these railways under their present management and ownership, with a nonpartisan nonprovincial federal commission, having limited but well-defined powers, whose duty it would be to adjust rates to the varied conditions in all cases affecting the mutual interests of states which would be of a federal nature. With such a commission, composed of properly chosen men, there would be no provincial competition, discrimination, or favoritism, and thus all the advantages of federal ownership would be gained, with none of the dangers.

The railways in some colonies pay; in others, they lose money. It would hardly do to tax one state for the benefit of another. In some, the lands are the source of future development as well as of revenue; in others, the valuable lands are mostly in private hands and offer no returns.

In my opinion, considering the vast extent of the country and the smallness of the population, the character of the country and the methods of their construction, there are no railways anywhere that are better managed than those of New South Wales. The aim has been to make them serve the real owners—the citizens of the colony. Without scandal, without corruption, without doing violence to private enterprise, and without costly mistakes in acquiring experience, the governments of these colonies have discharged the duty of ownership of the lands and of other utilities. Their management has been so satisfactory to the whole people that a feeling of pride and responsibility will prevent any transfer to an authority beyond their immediate control.

Realizing as I do how much a successful federal movement would improve the commercial opportunities of our people in Australia, I hope there will be no effort by the convention to interfere with the local authority, local sentiment, or local financial interests. I hope the federal power will be confined to federal affairs.

The six colonies of New South Wales, Victoria, South Australia, Western Australia, Queensland, and Tasmania now receive a total revenue of about £9,000,000 (in round numbers, $45,000,000). It is assumed that under the proposed act of union, a federal tariff would yield approximately the same amount. It is assumed, also, that the federal expense would reach about £3,000,000 ($15,000,000), leaving an annual surplus of some £6,000,000 ($30,000,000). This surplus, and the method of distributing it among the contracting parties is now the most complex question discussed by the many candidates for convention honors.

Americans would wonder why this surplus, or any surplus, should be provided for, and they would also realize the danger that would follow the existence of a surplus in the federal treasury. Further, accustomed as we are to preserve inviolate the distinction between federal and State authority, to us it seems anomalous to use the federal taxing power to provide money for State or local expenses. I doubt if the Australians realize the difficulties, if not the actual dangers, with which the proposition is pregnant.

Direct taxation is regarded with a feeling of horror by a majority of people in Australia. As a fact, a majority of them know nothing of it or of its workings. Until recently, all revenues for all governmental purposes were raised by duties on imports or from the sale or rent of land. For a few years, Victoria has had a limited "direct-tax" system, but the policy is new to all the other Australian colonies. New South Wales adopted a system of direct taxation January 1, 1896. It seemed to property owners an undesirable innovation, and was adopted only after a desperate struggle. Men worth millions knew nothing of a tax collector, and men owning hundreds of thousands of acres of land paid not a cent in taxes, even to construct the roads without which their lands would be uninhabitable. The wealthy classes have cultivated and disseminated this aversion to direct taxation. In this, as in other countries, it is hard for the great majority of people to realize that no money can get into the treasury, whether state or federal, until it is taken out of somebody's pocket. If money is to be collected in the federal treasury, to be parceled out to the states for local purposes, especially where states assume so many functions and manage and control so much of the industrial field, the demand for this easily acquired lucre will be unlimited. With a constantly overflowing treasury, the temptation to extravagance in the federal parliament might be very great and the people might become an easy prey to the most corrupt federal legislation.

Why the federal powers of taxation should not be limited to the necessities of federal expenditure, is difficult for an American to understand, as only this course seems in harmony with true federal principles.

Fortunately, Australia has its quota of able and patriotic men, who will make every effort at the convention to sift out the visionary schemes and to offer for public acceptance a constitution worthy of the age and race and of a people schooled in self-government.

If the forthcoming convention frames a compact acceptable to the four colonies whose delegates will be present, there is little doubt that Queensland and Western Australia will join, and then there will be a nation covering a continent, and a continent controlled by a nation.

GEO. W. BELL,
SYDNEY, *February 9, 1897.* *Consul.*

TRADE BETWEEN THE UNITED STATES AND AUSTRALIA.

The advantage of increasing the trade between the United States and the colonies of this country can not be overestimated, and a few suggestions as to the course to be followed will not be out of place.

The colonies are on the eve of federation. An election was held this month to elect delegates to the convention, and all seem ready to unite under one government. It is proposed to have a governor-general appointed by the Queen, with lieutenant-governors for the different colonies chosen here (or also appointed by the Queen—this latter point to be decided by the convention), a Senate and a House of Representatives, all chosen by the people. There will be intercolonial free trade, and the Congress will adjust the duties on foreign imports.

There are still many differences of opinion between the leading premiers on minor points, but this convention is held for the purpose of adjusting these differences, and there is a prospect in the near future of this country being under one government and being known to the world as the Australian nation.

The advantages to be derived from this proposed union are too varied to be spoken of in this report, but it is certain that it will result in mutual benefit to all the colonies, and will open up a much wider field to foreign trade. The tendency among the buyers here has been in the past to purchase goods of English make; but lately the increasing competition has told, and now the universal tendency is to purchase where they can buy the cheapest and best. Germany is making rapid strides in this market, and the words "made in Germany" are becoming very common. Several German houses have established agencies here and are doing a very large business.

Recently the demand for American goods has been more pronounced. The superiority and excellence of American manufactures has been recognized, and whenever the duty does not actually prohibit, the tendency has been to purchase them. American bicycles are sold here now on a par with other makes, and the superiority of all kinds of mechanical or agricultural implements is acknowledged. There is in this country a field for all kinds of American goods, but some are barred on account of the excessive tariff—carriages, for instance, and vehicles of all kinds have a prohibitive duty placed on them. There is only one American buggy in Melbourne. But carriage wood ware is universally used. That imported from the United States is acknowledged to be the best. American tobaccos have a very large sale here, and an American tobacco company has been formed here, composed of the leading manufacturers in the United States, with which are amalgamated some of the leading manufacturers here, for the purpose of manufacturing plug and cut tobacco and cigarettes. It would be impossible to enumerate in this report the American goods that sell here; suffice it to say that all American goods find a good market, except carriages, and those are excluded by the duty.

In one thing the buyers are very cautious, and that is in placing large import (or "indent," as they call them here) orders, for the reason that they are obliged to order from samples, or more frequently from catalogues, and the goods may not be equal to the sample. They also object to placing orders for large quantities of goods with middlemen. They prefer to buy from the manufacturer direct.

All American manufacturers who have sent agents to this country have built up a good trade, and that they will continue to do so is an acknowledged fact.

I would suggest that several American manufacturers unite and establish an agency here, with an accredited agent. They must also contribute a certain stock to be carried here to supply the general demand. The dealers here all require a place where they can purchase in such quantities as they may need, and they are willing to pay extra prices for the privilege. The main point is that they are dealing with the manufacturers themselves and buy direct from them. In one or two instances, American houses have established agencies and have done a capital and most successful business. I suggest three manufacturers uniting, in order to save expense to them. They could share the expense of an agent and establishment and could bear equally the traveling expenses. I would suggest that an American bicycle firm, a manufacturer of axes and other tools, and an American novelty company might unite and make this experiment. It could not fail to result to their advantage. In other colonies besides Victoria, the field is wide. In South and Western Australia, the mining interests are attracting thousands, and goods of American make are well received.

In and about Adelaide, South Australia, there is a demand for mining tools, and also, to a certain extent, for American cereals, as this country has not been able of late years to produce enough for its own demands. An abundance of rain, however, has made the prospect for this year's crop brighter than it has been for years, and a large yield is confidently predicted.

With the advantages our buyers of wool and timber would have in this market, and with several authorized representatives of American manufacturers carrying stock here, a trade would surely follow that would result to the mutual benefit of the two countries.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *March 1, 1897.*

THE BICYCLE TRADE OF VICTORIA.

The bicycle trade of Victoria is at present in a decidedly unsettled condition. Practically, there was no bicycle trade here previous to 1890, but since the advent of the safety bicycle, the trade has developed rapidly, and when the Dunlop pneumatic tire was invented, the Victorian public suddenly awoke to the fact that the bicycle offers a safe, easy, and pleasant mode of locomotion. Victoria, and Melbourne in particular, felt the influence of the bicycle. This is the home and center of sporting, and more horse racing was indulged in than in perhaps any country in the world. The bicycle races quickly displaced this sport in public favor and divided with it the large public attendance; and they seem to be more than retaining their hold.

The climate enables one to be in the open air all the year round, and the fairly level and interesting country around Melbourne permits runs up to 100 and 200 miles to be made with comfort; thus the bicycle has evidently come to stay in Victoria. Melbourne, too, as a city, is very widely scattered, being practically 10 miles square, and is in reality made up of about twenty-five different suburbs, each a center in itself. Access to the city has hitherto been by means of cable car or by rail, and to many it seemed as if the fares saved in this way would cover the cost of the bicycle in a reasonable time. This state of things has been greatly facilitated by so many agents offering bicycles for sale on time payments, generally about $25 cash and $1.25 a week, the bicycle being the property of the agent until all payments have been made. One suburban agent is said to be selling machines on time payment for the exact amount of the monthly suburban railway ticket, so that the buyer at the end of a certain time seems to obtain his bicycle free of cost. The racing craze, too, has helped the bicycle trade immensely. It is authoritatively stated that the largest cash prizes in the world are given here to professionals, from both America and Europe, who are attracted to this colony by the large inducements offered, and as sportsmen in all the various branches are well treated, they return home with a kindly feeling toward the Australians. The prizes offered during a season are the Australian Natives' Association prize, the value of which is $1,701 for the leading competitor, and $729 divided between the second and third, in the proportion of $500 to the second and $229 to the third competitor. Another important prize is the Eight Hours' Gala prize. These prizes are a great attraction, and at the last race there were one hundred and forty starters.

The Victorian Bicycle League is a very powerful association, and spares no expense to make bicycle sports attractive, and as the races are well attended, they are amply repaid for their outlay. Although Melbourne is the leading bicycle center, there are very attractive meetings at Ballarat, Bendigo, and Geelong, and the races are well patronized. Among the professional men in this colony at the present time is W. Martin, from the United States, who has beaten all the crack riders of the colonies. Almost all the professional riders receive a regular salary from some manufacturer to ride his make of bicycle; this, of course, keeps that brand of machine constantly before the public, which is assisted by the particular agent displaying in his window after every race the bicycle ridden in the race and the trophy (if one) given. This, of course, helps the sale of the machine immensely. The competition in the bicycle trade in Victoria, as well as in the other Australian colonies, is becoming intense; not only are the regular agencies numerous, with expensive stores on the best streets and subsidized professionals to help the trade, who are often employed as salesmen, but advertising is done on a lavish scale. The trade is by no means confined to the bicycle agents, as the large dry goods merchants now import machines, and even in tailors and tobacconists' windows the bicycle is to be seen. Large numbers, too, of old models are exchanged for the newest ones by owners who wish to be abreast of the times, and who are allowed a certain sum for the old ones. So far, not many of these have been sold, but the stocks are accumulating so rapidly that they will soon be on the market. Many have already been repainted and fitted up and sold as second-hand machines, at a good profit on cost, which, in this case, is the amount allowed in the exchange. There are several firms who import parts and put together the bicycles here, and as there is a duty of 10 per cent on the bicycle, and some parts are subject to 10 per cent and others are free, a profit can be made by manufacturing the machine in Melbourne. The following table shows the state of the import and export trade in 1895 and 1896, the figures for the latter year being very large:

Description.	1895.			1896.		
	Packages.	Value.		Packages.	Value.	
Imports	1,247	£44,005	$214,150.33	17,084	£341,817	$1,663,452.43
Exports:						
Victoria manufacture.	106	1,419	6,905.56	717	17,399	84,672.23
Other manufacture	717	21,630	105,262.39	1,744	47,961	233,402.20

Thus, last year, Victoria imported close on £300,000 ($1,459,950) worth of bicycles, tricycles, and parts from other countries, at the same time turning out machines in considerable quantities from local factories. The value of the parts imported was £93,697 ($456,976.45) and the exports, as shown, were represented by a value of £47,961 ($233,402.20). Thus, we have the net importation for home consumption of bicycles alone aggregating £210,159 ($1,022,738.77), and adding to that total the value of the parts imported (which, being made up in the colony, also represent complete bicycles), the number of bicycles imported during 1896 is represented by a value of £303,856 ($1,478,715.22). These figures are drawn from customs returns, which deal only with invoice prices. Therefore, taking £11 ($53.46) as a liberal average invoice cost of a complete bicycle, it will be seen, with the aid of a simple arithmetical calculation, that no fewer than 27,623 complete bicycles were imported into Victoria during the past year. A "complete" bicycle does not necessarily include the tires, though the vast majority of machines, when received from the manufacturer, are furnished with those parts. Since New Year's the rate of importation has remained high, and up to about the middle of February some £20,000 ($97,330) worth of machines were imported.

There is no doubt that the bicycle trade is overdone in Victoria. Already, the various firms who handle the goods all over the city are complaining over the dullness of the trade and many of them will soon cease to exist. Ladies' bicycles do not seem to have met with the same success that men's have, though probably the sales of these are in the same proportion as in other countries, as they are patronized by many of the fashionable people of Melbourne.

The price of a good, first-class bicycle in this colony may be stated at from $116.64 to $145.80, which would show a good profit for the agent or dealer, but out of this must be deducted the salesman's commission and the professional rider's salary. Then, payments come in slowly, and there are losses which reduce the profit to a very small sum. There are some bicycles which are being sold as low as $58.42 by firms who cut prices. Tandems, triplets, quads, and all multicycles are generally confined to firms who own them and are used for pacing purposes in races. The majority of bicycles used here are of American and English manufacture; the former are rapidly growing in favor on account of their combination of strength and lightness. The wooden rims are very popular here. I append a list of the American machines sold here which have established agencies: Columbia, Bradford, White Flyer, Cleveland, Envoy, Fleeting, World, Keating, Crack-a-Jack, Stearns, Sterling, Coronet, Halliday, Orient, the White, Eclipse, Remington, Wolf, Syracuse, Relay, Waltham, Henley, Dayton, Garden City, Crescent, Demerest, Red Bird, Niagara, Warwick, Massey Harris, Viking, Peerless, Mercury, Monarch, Manhattan, Phantom (here called Gladiator and Bostedo), Triumph, and Hummer. New machines are being constantly brought out from the United States, which increase the competition, and one French and one German firm have already established agencies here.

MOTOR CARRIAGES.

Motor carriages have not yet been imported into Melbourne, but a local syndicate has been formed for the purpose of manufacturing them, and it has already built a carriage which has been on exhibition on the streets of the city. The syndicate anticipates a large sale, as the cars can be used for delivering goods and parcels about the city, and it is expected that commercial travelers will use them throughout the colony. There should be a big future for the motor car in Australasia, particularly in Western Australia, where there are thousands of miles of flat, sandy country to be traversed, and it is expected that motor cars will displace the camels. Large belts of auriferous country are being opened there and English capital is flowing in. The Western Australian Government is borrowing money and opening up the country, so that, for many years to come, there will be a great deal of activity in connection with property which has to be carried long distances. Even now, the bicycles are used extensively by miners, who find they can pack fair-sized loads on the seat and can guide them over the country, and as the bicycle does not have to be provided with either water or food, a large saving is effected. Camels are extensively used, but the motor car can easily rival these as a means of conveyance for both passengers and goods.

BICYCLE EXHIBITION.

That bicycles are popular in Victoria can be vouched for from the fact that the colony is credited with receiving 35 per cent more than any other country in proportion to population. The interest in bicycles is being stimulated by the aid of bicycle exhibitions, one of which is being held in Melbourne at the present time, which gives the manufacturer an opportunity to display his machine to the best advantage. This exhibition is under the management of Mr. Arthur Seymour, who is the originator of the enterprise.

DANIEL W. MARATTA,
Consul-General.

MELBOURNE, *March 11, 1897.*

RUBBER TRADE OF MADAGASCAR.

I have prepared this report on the port of Fort Dauphin, the only place of any importance in southern Madagascar, in the hope that it may be of service to some of our rubber importers, if not productive of a more progressive policy on the part of the American firms already located in Madagascar.

It seems almost incredible that wide-awake business men, acting as agents for American houses here, whose main dependence for remittances home was in hides and rubber, should remain inactive, while for over six years their English, German, and even French competitors were realizing fortunes, but such has been the case at Fort Dauphin.

The English mail steamer *Methven Castle*, while I was aboard en route to my post here in January, 1894, called at Fort Dauphin and notified the people there that the next Castle steamer would stop for freight. Since that time, the English mail always calls at Fort Dauphin and evidently finds it profitable to do so. One or two steamers of Norton & Son's South African Line in 1896 landed a few bales of American cotton at that port, but the English mail does the bulk of the trade.

The port of Fort Dauphin was practically, up to 1890, a most unimportant trade center, but about that time rubber was found in accessible and fairly abundant quantities in the interior, and although the German houses and one or two small Mauritian and French firms located there united in trying to keep the discovery secret, the news leaked out, and in about two years—that is, at the end of 1892—a number of Mauritian and Tamatavian firms likewise opened agencies at the port. During the first two years, rubber was readily bought for 50 francs ($9.65) per 100 kilograms (220.46 pounds) and resold in Tamatave for from 250 to 400 francs ($48.15 to $77.20), while those firms who, like Oswald & Co., of Hamburg, exported directly to Europe, gained even a larger profit. The rubber trade soon became, to both vazaha (foreigner) and native, the only money venture. Orchilla, which formerly was shipped in large quantities from this port, disappeared entirely as an article of commerce, because the rubber gatherer could earn treble and quadruple as much as the orchilla gatherer.

The Franco-Malagasy war had but little, if any, effect on the commerce of Fort Dauphin, but a series of internecine tribal wars between 1894 and 1896, together with the reckless and destructive manner in which the rubber had been gathered, caused a number of the smaller firms to withdraw from this port. In 1892 and 1893, the export of caoutchouc is safely estimated as being between 1,700 and 1,800 tons, while in 1896, from the causes stated, it had dropped to less than 168 tons. Formerly, the rubber was gathered within two to three days' journey from the port; to-day, the natives have to go five or six days' journey to the northward. Up to 1893, rubber was readily obtainable in exchange for merchandise at enormous margins, but competition, little by little, forced the price up; not only this, but the natives were offered a partial cash payment, and now rubber is sold exclusively for cash (5-franc pieces=96.5 cents).

To-day, there are in Fort Dauphin eight houses enjoying a fair share of this rubber trade, all of which have trading posts some distance from the port—namely, at Andrahomana, Manambaro (the actual trade center), and Manahalo, and latterly at Lamborany and Ampikazo, north of Ranopitsy—and from these posts the agents often take inland trips to the rubber gatherers' villages or camps. In addition to these regular houses, there are a number of peddlers, of Hova or mixed Hova-Antonsy race, who go inland with bearers carrying mixed merchandise and return with rubber and cattle.

Besides rubber, the present exports of Fort Dauphin are unimportant, as the following table will show:

Exports of Fort Dauphin during the year 1896.

Articles.	Quantity.	Value.	
		Francs.	
Caoutchouc (rubber)......pounds...	307,657	515,870.00	$99,562.91
Hair, vegetable......do......	57,044	1,485.00	286.61
Hides, dry......number...	743	2,314.00	446.60
Horns, beef......pieces...	1,000	70.00	13.81
Tobacco......pounds...	320	40.00	7.72
Turtles, live......number...	1,907	548.50	105.86
Beeswax......pounds...	572	510.00	98.43
Total......	......	520,837.50	100,521.94

Of the other products exported from Fort Dauphin, the vegetable hair and wax come exclusively from the district around Sandravinany, but could certainly, were the natives more industrious, be obtained in other sections as well. Turtles come from False Cape; hides and horns are obtained from the towns of Fort Dauphin and Manambaro, where several hundred head of beef cattle are slaughtered annually.

I understand that an attempt has been made to introduce, in a very small way, the Para rubber tree into the Fort Dauphin district. Although it seems to thrive vigorously as a small sapling, what the results of subsequent growth or of large cultivation would be, no one can predict.

The imports at Fort Dauphin for the year 1896 amounted to 357,076.54 francs ($68,915.77), whereof but 21,000 francs ($4,053) came from France or French possessions. The importations of gray cottons were valued at 84,873.04 francs ($16,380.49), and fully three-fourths thereof came into Fort Dauphin in English bottoms; hence, although the French customs only show some 10,204 francs ($1,969.37) as being of United States origin, a much larger quantity must actually have been of American make.

Referring to the table of exports, I would add that of the caoutchouc, 4,733 pounds went to France, 281,036 pounds to England, and 84,888 pounds to Germany. The other exports all went to England, except the live turtles, which found a market in the French island of Réunion. The entire exports were thus distributed: England, $73,673.80; Germany, $25,479.47; and France and French possessions, $1,368.47.

As to the future trade outlook, it can be positively stated that, if the surrounding country were peaceful and open to trade development, Fort Dauphin would assuredly become again a very important trade center.

The United Lutheran Church of America (Norwegian) has for some years had its head mission located at Fort Dauphin, but at no time has any attempt been made to establish an American commercial house or an agency for such a house at this great rubber port.

Permit me to close this report with a translation of a paragraph in a recently published French article, appearing in an official organ:

> Unless the conditions of tissue fabrication should change, the French producer of such articles will, with difficulty, make headway against foreign competition in Madagascar. Even under the enforcement of the general customs tariff, which will raise by 20 per cent the cost of foreign tissues, these latter will be, all duties paid, cheaper than French tissues.

EDW. TELFAIR WETTER,
Consul.

TAMATAVE, *April 2, 1897.*

THE BEET-SUGAR CRISIS IN EUROPE.

PROPOSED LEGISLATION IN BELGIUM.

The Belgian sugar journal (La Sucrerie Belge) publishes, in its March number, a petition to the Belgian Parliament, signed by all the sugar manufacturers of this country, requesting certain modifications in the legislation now existing relative to the sugar industry. This petition was adopted at a meeting of the trade February 24 last. It presents a review not only of the situation of the sugar interests in Belgium, but also of their general condition in the other European countries of production, and, for that reason, with due consideration for its authority, is of considerable importance. A textual translation is as follows:

BRUSSELS, *February 20, 1897.*

To the President and Members of the Chamber of Representatives at Brussels:

The undersigned, manufacturers of beet-root sugar, have the honor to set forth to you that the principal European countries producing sugar, according to the importance of their approximate production of this year, rank as follows:

	Tons.
Germany	1,850,000
Austria	1,000,000
France	750,000
Russia	700,000
Belgium	300,000
Holland	150,000

From the fifth place which it occupies in this table, Belgium passes to the first, if we take as basis of estimate the relation between production on the one hand and population, territorial area, and quantity exported; this latter, indeed, exceeding five-sixths of the total quantity produced.

The existence of the Belgian sugar industry therefore depends essentially on the international sugar market, and is much more than any other affected by this latter's variations. The decisive elements of international competition are the agricultural system—factor, the price of raw material; the manufacturing system—factor, the cost of extraction; the legislative system—factor, fiscal favors, these three factors being furthermore closely conjoined by rapid and inevitable reaction.

While, however, the first two factors are capable of but slow development, and can, for this reason, introduce into the fixed equilibrium only gradual modifications, the third can cause sudden and vast disturbances. Recent events have shown the truth of this statement, and the results are so unexpected and serious as to justify the undersigned in setting forth to the public the extent and the causes of the disaster which, at this moment, is threatening the Belgian sugar industry and Belgian agriculture. The fiscal system applied to sugar factories in force in the various countries mentioned is chiefly established by the following laws: Germany, law of May 31, 1891; Austria, law of May 20, 1888; France, law of July 29, 1884; Russia, law of July 13, 1891; Belgium, law of April 16, 1887; Holland, law of April 15, 1891, and preceding legislation.

Since the dates above mentioned, the basis established in these various countries had undergone only secondary modifications, rather local than international, and, generally, of a nature to diminish the fiscal favors instead of increasing them. From the point of view of competition among the countries of Europe, a sort of peaceful stability was thus acquired, resulting in a corresponding equilibrium in the interior relations of each country between the rural and industrial systems, as well as between the cultivator and and owner.

This situation, slowly established, has, during the last year, suffered the most serious disturbances. Important modifications have been adopted by all our competitors, Russia excepted; the latter, enjoying a special system, suffices almost entirely for itself without having much to export, it is, therefore, not necessary to give it special consideration.

The modifications to which we allude are the following: In Germany, the law of May 27, 1896, increased the export bounties in the following proportions: (1) For raw sugar, from 30 cents to 60 cents per 220 pounds; (2) for white sugar, from 41 cents to 72 cents; (3) for refined sugar, from 48 cents to 89 cents. This is not meant to interfere with other measures, notably the imposition of supplementary taxes, and the provision by which a factory, under the penalty of having its proportion of export bounties reduced, is, so to speak, obliged to increase its output or at least to maintain it at the same level, even under the most unfavorable circumstances.

Immediately afterwards, Austria, by the law of July 7, 1896, took corresponding protective and defensive measures, especially increasing from about $2,000,000 to $3,600,000 the amount of public funds destined for export bounties.

In France, the Chamber of Deputies has just voted export bounties even more important than those of other countries, amounting to—(1) raw sugar, 68 cents per 220 pounds; (2) white sugar, 77 cents; (3) refined sugar, 87 cents. All these export bounties are independent of the interior advantages accorded in Germany and Austria, in various forms less tangible, although not less real, and in France in the form of bonuses upon the manufacture, which, in the official French statistics, appear for sums varying from $1.16 to $1.54½ per 220 pounds, and which may be normally fixed at $1.35 per 220 pounds.

Holland, in turn, has just revised its system, giving from the beginning to its producers a bounty of $1.06½ per 220 pounds on raw sugars.

It is an economic war to the finish between rival nations, each desiring the ruin of the others, which these measures unchain on the sugar interests of Europe.

The effect was, therefore, immediate. The reaction of these new bounties on the international market was extraordinarily strong, surpassing all anticipations. From the time of the annoucement of the intention of the German Government, quotations were on the decline; after the adoption of the law, the bounties immediately increased in Austria, and a law of even a more aggravated nature was proposed in France. All these facts succeeded in disturbing the confidence of holders and merchants, and the scare became such that quotations fell from $6.17 in April, 1896, to below $4.25 in October last (per 220 pounds). In the midst of this international conflict, while our competitors are everywhere being provided with new weapons, the situation in Belgium is, by the force of events, becoming modified in an entirely different direction. It is well known that the Belgian fiscal system gives to producers the enjoyment of certain bonuses on manufacture under the form of sugar free from duty. The progress made in the methods of cultivation and manufacture has always compensated the regular increase of the amount taken into account, to such an extent that the quantity of sugar free of taxation may still to-day be estimated at an average of 18 per cent of the legal production. The tax being $8.69 per 220 pounds, the theoretical value of this benefit may be estimated at $1.32 per 220 pounds of sugar produced.

If this protection were real, it would suffice to counterbalance the advantages given by other countries, but the reality is much less than it seems. In fact, by reason of certain circumstances about to be explained, this amount suffers two important reductions:

(1) The premium on duties, according to which the commercial value of the bonuses is fixed, destroys a portion of them. This premium, very variable, remaining quoted in these later years at 10 to 15 per cent, has recently risen much higher. It has reached the quotation of 40 per cent—a point at which it approximately remains at this moment.

(2) The payment to be made to the treasury and which, in the unanimous opinion of those interested, must be made in the future unconditionally. If we consider as the basis, on one hand, a production of 200,000 tons taken into account, and on the other hand, a variation in the payment of $1,158,000, the amount imposed upon manufacturers per 220 pounds of sugar taken into account is 58 cents, or, that is to say, 49 cents for every 220 pounds of the real production.

It must be anticipated, without doubt, that the inauguration of this mode of payment will result in a certain decrease in the rate of the premium on the duties, but the situation of the sugar market for consumption is so burdened that the payment unconditionally would not in itself alone suffice to restore the premium to 10 to 15 per cent. If we adopt as a basis of calculation, the quotation of 30 per cent, we still remain below the probable truth. If from $1.32 we deduct 30 per cent, or 40 cents, and also the sum of 49 cents above mentioned, there remains as a fiscal advantage for the Belgian manufacturers the maximum of 47 cents per 220 pounds of sugar produced.

Under these conditions, the situation in Belgium is very serious. At the present quotation of sugar for the next year ($4.44 per 220 pounds), it is impossible for the manufacturers to pay the beet growers a sufficiently remunerative price, and a reconciliation of the two great agricultural and manufacturing interests, satisfactory to both, has become unrealizable. The advantage acquired with so much difficulty by Belgium in the international market can not be maintained against the competition fostered by the new bounties of the three great producing countries. Manufacturers, farmers, landowners, the laboring classes, and trade are thus going to lose a resource important for the national wealth and the economy of the agricultural system. The local causes which graft a domestic crisis on the general crisis are, on the one hand, the gradual increase of production due to the extent of the sowings, to the quality of the beet, and to the improvements in methods of manufacture; on the other hand, the failure of a corresponding increase in consumption and the curtailment of the sources of legal revenue. Foremost in this respect, is the competition of saccharine and glucose, as well as the increase of the minimum of revenue to be paid. The bases for the calculation of the bounty have thus decreased, while constantly increasing quantities have come forward to share it.

It remains for the undersigned to recite the measures which might not, indeed, cure the evil, but lessen its seriousness, and, little by little, restore the equilibrium.

The undersigned do not demand export drawbacks or new bounties, they do not request any new sacrifice from the nation or from the treasury; but in view of the gravity of the danger, they have the right to require that the existing system shall afford them the advantages which it is legally intended to produce. The measures which they have the honor to request have furthermore as their object the assurance of domestic stability and regularity in the collection of the revenue of the treasury. In demanding the entire benefit of the present fiscal system, a benefit which in the past was always enjoyed, industry and agriculture are not making any demand which can not be accorded them. In seeking means to suppress the excessive premium or duties, the enormous losses which they cause, and the uncertainty which results therefrom for agriculture, commerce, and industry, the undersigned, according to the declarations of the Government, pursue an object which is praiseworthy and entitled to the consideration of the public authorities. The attainment of this result is necessary to insure the cultivators, in all instances, the maximum price which the general economic situation may justify. The measures outlined by the undersigned have no other object.

The premium on duties results from a want of the necessary equilibrium between the consumption and the production of sugar. To restore this equilibrium, it is necessary, first, to increase the legal output in order to reduce the production of free sugar (an increase of 5 per cent does not seem excessive); second, to inaugurate the payment of the tax unconditionally, so that the situation may not be aggravated by the freedom from duties of a new quantity of sugar of the same kind, and in order to insure the normal revenue to the treasury.

Furthermore, contrary to the intention of the legislature, a portion of the revenue from sugar has been misplaced, in the sense that the product of the excise on glucose is not included in the general revenue from sugar. It thus results that the minimum, guarantied by this industry, is in reality increased by the entire sum produced by glucose which, in consumption, takes the place of sugar.

Saccharine has also contributed and will continue to contribute by certain of its preparations to decrease the consumption of sugar, and in consequence, to injure, to the detriment of the responsible sugar industry, the natural revenue of the treasury.

Finally, by recently increasing the minimum amount of this revenue from 6,000,000 francs to 6,500,000 francs ($1,158,000 to $1,254,500), the public powers have increased the burdens of this industry exactly at the moment when, on all sides, it sees its means of defense in the international struggle lessening.

The restoration of the minimum to its former level, such as was held very recently, is the only concession which the undersigned ask of the State.

It is not possible, however, to be deluded concerning the efficacy of these measures; whatever may be their effect in restoring the destroyed equilibrium, it is certain that, during a period of time difficult to estimate, but certainly long, the overabundance of sugar for consumption will maintain the premium on duties to such a point that, although rendered more regular by the preceding measures, it will still remain so high as to reduce proportionately the advantages of the manufacture. A corrective is, therefore, necessary, and since the premium is based on the drawback, it would suffice to raise the rate of this latter to neutralize, to the same degree, the injurious effect of the premium. But as there is no question of causing by this means an indirect decrease of the legal output, this should be increased likewise in the exact proportion of the increase of drawback. The undersigned propose, therefore, an increase of 15 per cent in the drawback, with a corresponding supplementary tax, and compensated by an equal increase of the legal output.

In this way, the present premium would be neutralized to the extent of 15 per cent, leaving out of the 25 or 30 per cent previously mentioned only a normal loss of 10 to 15 per cent on the basis of 45 francs ($8.69) per 220 pounds during preceding years.

The measures prayed by the undersigned are, therefore, the following:

(1) That the payment to the treasury, in case of variation, should be made henceforth unconditionally.

(2) That the legal output taken into consideration should be increased by 20 per cent, with an increase of 15 per cent in the drawback and an equivalent supplementary tax.

(3) That the minimum of revenue, restored to 6,000,000 francs ($1,158,000), include the sum realized from the excise on glucose.

These measures, which can only be temporary, would not involve any serious sacrifice for the treasury. They will barely permit this industry to gradually free itself from the serious domestic difficulties in which it is struggling.

While it is hoped to thus obtain a better equilibrium in the country itself, it is likewise to be sincerely wished that the exaggeration of the commercial struggle between Germany, Austria, and France may also result, by the greatness of the evil produced, in the return to a more logical and healthy condition. In this war of premiums, the victims are only the producers themselves, the destroyers of their own fortune to the profit of nonproducing countries. Export bounties have no other result than the constant decline of the products to the uttermost limits of the cost price, and even lower than that. Germany and Austria must, at the present time, recognize the error committed by them, and France, in spite of the enormous advantages which she thought she was assuring her producers, will be obliged, in turn, to admit that she does not find in this fatal war any profit for herself.

Of all Europe, Belgium alone will not have export bounties on her sugars, and the undersigned do not wish it. Better than any other nation, it is in a situation to take the initiative in the work of alleviation and pacification.

The undersigned, in expressing the hope that the public powers will decide in favor of their requests, as formulated in the law hereto annexed, also give expression to their desire of seeing the Belgian Government undertake the opportune and necessary labor of pacification at the moment when such serious dangers threaten this cultivation—one of the greatest industries of Europe.

Then follows the law proposed, as already set forth, and the signatures of the petitioners, some seventy in number, including all the principal manufacturers in Belgium.

To understand the proposed change in Belgian legislation relative to sugar, we must know that, under the present system, the Government annually fixes a certain quantity of sugar to be produced, and likewise a certain gross sum of $1,158,000 as the amount of tax to be paid by the manufacturers of sugar. This latter amount is proportionately divided among the various factories according to their pro rata share of production. These estimates are called "the amount taken into consideration" or charged against the manufacturers (the original French is "prise en charge"). If the amount of revenue to be raised does not enter into the treasury in due course as the result of taxes collected, the balance lacking must be made up by the sugar manufacturers pro rata to the quantities of production charged against them respectively. The quantity to be exported by each firm is, moreover, limited by the quantity of production and of the tax charged against it and to be paid by it; for the drawback, primes, or bounties paid by the Government must not exceed the amount of tax collected—that is, $1,158,000. The quantity for export, therefore, being limited, the surplus of sugar manufactured must be sold in Belgium. This surplus has been so large in recent years that the price has fallen to about $1.50 per 100 pounds less than the cost of manufacture. It is to avoid this loss that the manufacturers now propose to pay the sums assessed against them unconditionally—that is, the entire sum of $1,158,000—without the right of recovery in case of smaller production than the estimate for their respective firms, provided that the amount indirectly established by law for export shall be increased—practically indefinitely—and they shall not be obliged to make up any deficiency which may occur in the total tax of $1,158,000 (none could occur if all the pro rata assessments were paid in advance). The manufacturers would necessarily be out the amounts paid by them as a tax and which now, in case of deficiency in production, they receive back, but the increase of the export drawback proposed and the larger quantity of sugar permitted to be exported would fully compensate them. Exports being larger, less sugar would be offered for sale in the country, the supply would be more proportionate to the domestic demand, prices would be better, and the profits on domestic sales would surpass the amount of the excess of tax paid; hence, the situation of the Belgian sugar manufacturers would be much more favorable than under the existing system.

HENRY C. MORRIS,
Consul.

GHENT, *April 29, 1897.*

EFFECT OF THE GERMAN SUGAR LAW.

This law, which was greeted as the forerunner of better times for the beet growers, has so far been rather disappointing in its effects. The price of sugar has continued to decline until it has reached to-day 8.70 marks ($2.07) per cwt. (110.23 pounds) free on board Hamburg, and this, in the face of a largely increased demand from the United States. The lowest figure ever touched before was in the beginning of January, 1895, when raw sugar free on board at Hamburg was sold at 8.50 marks ($2.02) per cwt. (110.23 pounds). At the end of the "campaign year" 1895–96, there remained in Germany a stock of about 1,800,000 double cwts. (180,000 metric tons) of raw sugar. From present appearances, the production of raw sugar during the "campaign year" 1896–97 will amount to about 18,300,000 double cwts. (1,830,000 metric tons), making a total stock of about 20,100,000 double cwts. (2,010,000 metric tons) to be disposed of. During the first six months, about 7,077,000 double cwts. (707,700 metric tons) have been used for home consumption and export, and if we assume that an equal amount will be used for the remaining six months, the "campaign year" 1896–97 will close with a stock on hand of about 5,946,000 double cwts. (594,600 metric tons), or almost one-third of the entire yearly production. Even if the consumption for the remaining six months should be considerably more, a large stock will still be left unsold and must press heavily upon the market when the new crop comes in.

Under the former law, this result—bad as it is—could be somewhat counteracted by a reduction in the area under cultivation, but the new law renders such a reduction impracticable and inadvisable for the factories, and, therefore, directly enforces overproduction, instead of preventing the same, as was intended by its promoters. The cause for this is found in a stipulation of the new law, fixing the contingent amount which each factory may produce. (Factories may produce more than their contingent, but must pay a tax on such excess equal to the full export bounty.) This stipulation says that the contingent amount for larger factories is to be fixed every year, according to the two highest annual productions for the last three years, and for smaller factories, the highest annual production for the last five years is to be taken as a basis. It is, at a glance, apparent that unless a sugar factory is willing to work with a smaller contingent, it must at least maintain its present output; but, as in the struggle for supremacy many factories will try to push ahead and obtain a larger contingent at the expense of their rivals, an equal annual production will mean a reduced contingent. Factories are thus forced to increase their production if they desire to avoid being crowded out.

As a revision of the new law, after it has been in effect but a few months, can hardly be expected from the Reichstag, efforts are being made by the majority of the raw-sugar associations to have at least an amendment passed, to the effect that the contingent, once assigned to a factory, can not be reduced. Unless this is accomplished and the cause for enforced production thus in a measure removed, the already dark prospects of the industry will become still gloomier, and the weaker factories can not avoid being driven to the wall.

JULIUS MUTH,
Consul.

MAGDEBURG, *April 30, 1897.*

SUGAR-BEET PLANTING IN GERMANY.

As was predicted in these reports (CONSULAR REPORTS No. 190, p. 511), the effect of the new sugar export-bounty law adopted in Germany in May, last year, has been to still further increase the acreage of beet cultivation, which had already reached what was generally regarded as the extreme limit of safe expansion.

From an announcement just made by the International Association of Raw-Sugar Manufacturers, it appears that the area of land to be planted with beets in Germany this spring will be 1,062,908 acres, against 1,050,184 acres in 1896 and 930,749 acres in 1895. This is equivalent to an increase of 1.2 per cent over the already very large acreage of last year, and is regarded with apprehension by economists, who realize that, notwithstanding the practical suspension of the sugar supply from Cuba, the limit of the world's consumption has been fully reached, and that any further increase in the product must react disastrously upon its market value. The increased acreage of beet cultivation is most marked in the provinces of East Prussia, Pomerania, and Mecklenburg.

But in other countries, notably Austria-Hungary, the low sugar prices of last autumn have operated, in the absence of such export bounties as are paid by Germany, to reduce the area of this year's planting, which has declined from 858,425 acres in 1896 to 748,589 acres this season, a loss of about 12.8 per cent. Similar reductions, more or less important, are reported in the plantings of Belgium, Holland, and Sweden. France, so far as appears, has not yet reported what the total acreage of beet culture will be in that country this year, but no important increase is thought to be probable, so that, taking Europe as a whole, the prospect is for a diminished area of cultivation, the increase in Germany's plantings being more than offset by the reductions in other countries.

Such, in brief, is the apparent result of the first year's operation of the new German sugar export-bounty law, sustained as it is by the advanced scientific methods of the Germans in the use of chemical fertilizers and their skillful improvement of the sugar beet itself, through which German agriculturists are enabled to produce 1 unit of sugar from 7.25 units of raw beets—instead of 1 unit to 13, as was the case a few years ago—while the highest average yield yet attained in France is 1 unit of sugar to 8.08 units of beets.

FRANK H. MASON,
FRANKFORT, *May 6, 1897.* *Consul-General.*

SUEZ CANAL TRAFFIC IN 1896.

The business of the year just closed was the most remunerative ever experienced by the Suez Canal, the traffic aggregating almost $16,000,000. The number of vessels using the great waterway in 1896 was 27 less than in the preceding twelve months, but the tonnage last year was greater, and the receipts were abnormally enhanced by the transit of a great number of Italian soldiers, going to or returning from the Abyssinian war. As in 1895, a few more German ships passed through the canal than in the previous year, while the falling off of British ships was considerable. In 1895, the number of ships flying the British flag using the canal was 2,330, while the number in 1896 was 164 less. As it was, however, Great Britain supplied two-thirds of the total traffic of the Suez Canal in 1896. It is a regrettable fact that not one ship under the United States flag passed through the canal last year. In 1895, four war ships or yachts flying the Stars and Stripes made the passage of the canal.

The statistics of the traffic in 1896 are given in detail in the following table:

Nationality.	Steamers.	Net tons.	Traffic receipts.
Austrian	71	158,751.38	$289,857
Belgian	1	1,891.22	3,431
British	2,166	5,824,100.13	10,649,130
Dutch	199	382,386.7	699,900
Egyptian	1	2,274.18	7,336
French	218	558,163.96	1,032,010
German	320	773,405.29	1,434,499
Italian	229	399,758.72	806,825
Japanese	10	30,553.79	51,348
Norwegian	38	72,248.76	128,880
Portuguese	7	7,993.74	13,404
Russian	47	129,127.8	288,843
Spanish	63	182,361.79	383,751
Turkish	37	41,289.87	141,221
Total	3,407	8,594,307.33	15,930,435
Total for 1895	3,434	8,448,245.83	15,631,748

FREDERIC C. PENFIELD,
CAIRO, *January 27, 1897.* *Agent and Consul-General.*

TRADE RELATIONS BETWEEN BASSORAH AND THE UNITED STATES.

I submit below a plan to increase the trade relations between Mesopotamia and the United States and to make our flag better known in the Persian Gulf.

During the export season of the products of this country, such as wool, dates, Persian carpets, gum tragacanth, nutgalls, licorice, etc., which are sent to the United States via London, we ought to have one or two steamers which would arrive at Bassorah for cargo for the ports of New York, Philadelphia, and Boston.

I am ready to prepare full cargoes for these steamers, and would be very glad if the Department would be kind enough to submit my propositions to owners of steamers who are in a position to assist me to establish a direct line of steamers between the Persian Gulf and the United States.

These steamers should take cargo at London (or Cardiff) and Marseilles for Bagdad (Bassorah), where there is always a great quantity of merchandise for the United States.

RUD. HÜRNER,
Vice-Consul.

BAGDAD, *November 19, 1896.*

SUPPLEMENTARY REPORT.

On March 4, 1897, Vice-Consul Hürner, in compliance with instructions from the Department to report as to the importance of the trade between the United States and Bassorah, sent a report from Consular Agent Hamilton, of Bassorah. Vice-Consul Hürner adds that he thinks the steamers should touch at Bushire, Aden, Suez, Port Said, Marseilles, and London before proceeding to New York. On the return trip, they should call at London, Cardiff, Marseilles, and Port Said to collect goods that may be imported at Bushire, Bassorah, and Bagdad. He also says that the flag of the United States should be introduced on the Tigris from Bassorah to Bagdad, as trade conditions would justify it.

CONSULAR AGENT HAMILTON'S REPORT.

Trade between Bassorah and America is at present chiefly carried on through London, where the head offices of the more important trading firms in Mesopotamia and the Persian Gulf are established, and it is almost entirely confined to the export of produce.

Practically, no American goods are imported here. The wants of the population are few, and only the cheapest grade of goods find a ready sale. Cottons, cloth, copper, and iron are supplied by Great Britain; sugar, glassware, and earthenware by France, Germany, Austria, and Holland; matches by Sweden and Japan; while Russia supplies kerosene oil, the annual import of which varies from 50,000 to 90,000 cases, valued at about $1.25 per case.

To closely gauge the volume of export trade done with America is impossible, from the fact that shippers are accustomed to send their goods to London, where Americans compete for them with English and continental buyers, and an opportunity for direct shipment to New York only occurs once a year (in October), when some of the larger date shippers combine in chartering a steamer to carry the new season's dates direct to New York, in order to reach there before the arrivals through London. The cargo of this yearly steamer consists chiefly of dates. wool, and licorice root. The total shipments of dates from Bassorah to New York, direct and through London, in 1896, were estimated at 193,000 cases, each 64 pounds net, valued at $280,000. This represents, for freight purposes, 6,000 tons of 20 cwts. Licorice root is exported yearly to New York to the extent of about 5,000 tons of 20 cwts. It is presspacked in bales of 3½ cwts., measuring about 9½ cubic feet, and valued at $5 per bale, and for freight purposes is rated per ton of 45 cubic feet.

Wool is also exported largely to America, but orders have decreased, through the tariff alterations, it is said. Apparently American buyers find it as advantageous to purchase at the London auctions.

I estimate the cargo which a line of direct steamers from Bassorah to New York would carry annually about as follows: Dates, 6,000 tons of 20 cwts., measuring 43 cubic feet; licorice, 5,000 tons, measuring 55 cubic feet; wool, 1,000 tons, measuring 80 cubic feet; skins, gallnuts, gum, and other purely Bagdad cargo, 500 tons; total, 12,500 tons.

Undoubtedly the trade between this port and New York would be considerably increased could shippers rely upon direct steamers, with suitable rates of freight. The rate of freight to New York is now computed at 12s. 6d. ($3) per ton over London rates. Last season's rate to London on dates was 27s. 6d. (about $6.55) per ton, and this is about normal.

It is during the date season, or, say, from September to December each year, that practically all the above-mentioned cargo is available.

Light-draft steamers only are suitable for this port, and the limit of the draft with which ships can cross the bar at Fao is 18 feet 6 inches, and that only at the fortnightly spring tides. At other times there are only from 12 to 16 feet of water. The expense of lightering cargo to steamers over the bar is some 3s. 6d. (84 cents) per ton.

In conclusion, I have to say that while it is evident that paying cargoes could be had for three months in the year for direct steamers to New York from Bassorah, difficulty would probably be experienced in obtaining suitable return cargoes to the East. Steamers frequently come here in ballast from Bombay to load for London, and it might be possible to have more regular service with New York by loading part cargo from that port and from Maskat and Karachi.

I understand also that such a line of steamers would receive good support in cargo from Aden and Port Said for New York, and, considering that these ports would be places of call in any case for coaling purposes, no deviation from the route or extra expense would be entailed. Freight on intermediate cargo from Bassorah and the Persian Gulf to Aden and Port Said, and to Karachi and Bombay, were these ports included, would be an important item in a steamer's receipts.

JAS. HAMILTON,
Consular Agent.

BASSORAH, *February 19, 1897.*

EXPORTS FROM SOUTH GERMANY TO THE UNITED STATES.

A comparison of the total values of declared exports to the United States from the district of the consulate-general at Frankfort and the several consulates under its supervision during the first quarter of the current year and the same period of 1896 presents the following exhibit:

Consular districts.	1896.	1897.	Increase.	Decrease.
Aix la Chapelle	$380,175.31	$523,519.51	$143,344.20	
Bamberg	127,195.03	140,005.69	12,810.66	
Crefeld	672,719.24	766,265.16	93,545.92	
Dusseldorf	255,041.82	304,841.97	49,800.15	
Frankfort	848,604.94	1,312,563.08	463,958.14	
Fürth	350,740.79	419,706.14	68,965.35	
Kehl	221,516.45	256,156.80	34,640.35	
Mannheim	865,344.47	1,126,713.20	261,368.73	
Mayence	498,322.96	628,299.11	129,976.15	
Munich	175,664.00	194,218.50	18,554.50	
Sonneberg	337,533.64	373,777.78	36,244.14	
Barmen	1,814,328.45	1,717,697.83		$96,630.62
Cologne	550,443.83	490,371.14		60,072.69
Freiburg	535,852.85	477,794.04		58,058.81
Nuremberg	387,762.62	366,765.55		20,997.07
Stuttgart	302,477.44	282,414.13		20,063.31
Weimar	107,555.01	104,411.91		3,143.10
Total	8,431,278.85	9,485,521.54		
Net increase			1,054,242.69	

The totals for each March quarter during the past ten years show the following striking fluctuations:

Year.	Amount.	Year.	Amount.
1888	$8,729,935.85	1893	$10,045,810.69
1889	8,994,997.02	1894	5,114,291.59
1890	9,585,264.29	1895	7,969,111.29
1891	8,929,463.14	1896	8,431,278.85
1892	8,330,549.40	1897	9,485,521.54

From the foregoing comparison, it will be seen that the maximum export from South Germany was reached during the March quarter of 1893 (under the tariff act of October 1, 1890) and the minimum shipments occurred during the same quarter of the following year, immediately preceding the adoption of the tariff act of August, 1894. The exports of the past quarter have been nearly identical in value with those of the March quarter preceding the enactment of the United States tariff of October, 1890.

FRANK H. MASON,
Consul-General.

FRANKFORT, *May 1, 1897.*

THE STAVE INDUSTRY IN CANADA.

The English and Canadian company manufacturing cooperage stock in this district, alluded to in my report of November 12, 1894, has greatly increased its holdings in the United States since that time, and expresses confidence in its ability to take advantage of any tariff changes made by either country. Its exportations to England being without duty, congestion can be relieved in either of the American markets. The export trade in elm staves, however, is not increasing. The foreign market generally demands only staves of white oak, and these are now being shipped in large quantities by this concern from the ports of New Orleans, Savannah, and New York. The first two months of 1897 show foreign sales, by this concern, of United States oak staves to the value of over $505,000, and the total for the year will be enormous. This is not remarkable when it is known that the ales of Allsop and Guinness are mostly casked in American staves, and that agencies at Bordeaux, Rotterdam, and Liverpool keep large stocks for the general demand.

But the most interesting phase of this industry is its gradual removal from Canada to the United States, a removal that, of necessity, must be completed in the next three years.

Its history here dates from 1878, though a few small mills had been started in a tentative way a year or two before that. In 1878, the Liverpool agency dispatched a buyer to this country, and, in 1894, the present company was organized. Under another name, it had been handling Ohio staves for several years, but that year it began operations in Michigan and the Southern States. It now owns 53,480 acres of land and standing timber in Alger and Delta counties, Michigan, and owns or controls 300,000,000 feet of stumpage, calculated to afford twenty years' supply to its mills at Munising, when their capacity shall have been doubled, as it is to be this summer.

In the South, its policy is to purchase the timber only, and it handles the output of numerous mills in Mississippi, Arkansas, Alabama, and Louisiana. Contracts already made in 1897 for the export and domestic trade in staves and lumber aggregate nearly $2,000,000, while the mills owned and operated have a capacity of 125,000,000 pieces of cooperage stock per annum. The lumber handled is hard maple, black birch, and oak.

The only elm fit for cooperage stock found in British North America lies in this county (Kent) and the two adjoining counties of Essex and Lampton, and of the original forest only 150,000,000 feet of stumpage remain. It has been depleted not only by the demands of this company, with its seventeen mills, but by smaller manufacturers, and millions of feet are yearly rafted to the United States. At the present time, logs are being piled at convenient spots along the Thames River and the north shore of Lake Erie for rafting as soon as the ice is gone. The mills all took advantage of the snows of the past winter to get in large stocks of logs and made every preparation for a busy season.

The rock elm found elsewhere in Canada will not do for staves, and with the exhaustion of the 150,000,000 feet above referred to, operations here must entirely cease. It is estimated by this company that their mills here will be idle in three years, and 1900 will see the elm stave manufactured only in the United States. They claim, furthermore, that the end of the use of elm for staves is in sight and can not possibly be deferred for more than a quarter of a century. The bulk of this timber left suitable for staves lies in Michigan and Indiana, and that gone, they expect to see the cottonwood used for headings and the gum and red oak for staves unless some other form of barrel or package first comes into use.

This company has just declared a net profit of 22½ per cent for 1896, after providing for depreciation of its plants both in Canada and the United States and crossing off all bad debts, a showing probably without equal in these times. Their intentions are to build more mills in the United States, enlarge those already built, and increase the number of their employees to thousands. Under their auspices the population of Munising, Mich., has risen from nothing to 2,500 in eighteen months.

EDWIN F. BISHOP,
Consul.

CHATHAM, *March 8, 1897.*

CURRANT CROP OF GREECE.

Since the commencement of the war between Greece and Turkey, communications have been received at this consulate from American currant dealers requesting information concerning the probable effect the war will have on the currant crop of 1897.

Just what the effect of the present war will be on the currant crop of Greece it is impossible to say, because no one can foretell the results of war. Scarcity of labor is the only obstacle which has confronted the currant growers as yet, and that has been partly overcome by the introduction of female labor in the vineyards. The Greek army is mostly recruited from the peasantry, not only because the greater part of the population is of the peasant class, but because the well-to-do classes, in so many instances, find means of being exempted from military service. Thousands of Turkish subjects in Epirus and Albania always emigrate to the Morea to find work in the currant vineyards. This year, the political troubles have kept them away. Under these circumstances, the scarcity of labor is especially felt where it is most needed.

The acreage of currant vines now under cultivation is almost as large as usual. Considering that the cultivation has been neglected to a certain extent, it will not affect so much the quantity as the quality. Vines, though uncultivated, will produce fruit, but the berry will be inferior in size and possibly will not fully ripen. Owing to the mild winter and early spring, currant vines are very precocious this year, which increases the danger of severe damage in case of hail or heavy rains. The possibility of hail is remote, but that of rain is imminent. If no unusual disaster occurs to the vines and we have men to harvest the crop, the supply of currants for 1897 and 1898 will not fall far short of the average production.

Old stock remaining in Greece unsold is very small—estimated to be 4,000 tons. Stocks in England are about 8,000 tons less than at this time last year. When we consider the very small stocks in the principal markets of the world and the probability that no old stock will be carried over in Greece, it is natural to suppose that the market next season will open firm. Russia and France have placed an almost prohibitive duty on currants; therefore, shipments from this port will be greatly restricted. This will, in a way, counteract the effect which the small stocks on hand and the shortage of the 1897 crop (if any shortage occurs) will have on the market next season.

One of the largest exporters of currants in Patras says:

> The only conclusion at which we can arrive at such an early date, with reference to the 1897 crop, is that there will be an abnormal difference established between the superior and inferior qualities. Our deduction is based upon the fact that as the neglect of cultivation has been felt everywhere, the decrease in demand will only affect inferior growths, Russia and France having been purchasers of those alone.

ROBERT LEE JENKINS,
Consul.

PATRAS, *May 4, 1897.*

NOTES.

Proposed Electric Street Railways in Ghent.—Consul Morris writes from Ghent, April 16, 1897:

The final project for the electric street railways to be constructed in this city is almost ready for publication. For some time past the plans and specifications and the details of the conditions of the franchise to be proposed on the part of the city have been under consideration by the committee of the council. It is now expected that all particulars will be published for the information of the public and the contractors about the end of this month. As several possible American bidders have made inquiries of this consulate relative to this project, it may be well to mention the details, so far as are now known. All, however, are only preliminary and may be modified before final approval by the council. The franchise includes all the lines proposed for the entire city and will be sold to the highest bidder at a fixed annual rental to be paid to the city for a certain term of years, at the expiration of which the city reserves the privilege of purchasing the entire system. The lines to be operated are numerous and will be planned by the city. The motive power is to be electricity—in the central portion of the city, the accumulator, and in the outlying districts, the trolley system. There will be two separate classes for passengers; the fare in the first class is fixed at 3 cents and in the second class at 2 cents. The working hours of employees are to be thirteen and a half to fourteen and a half hours. The wages of drivers, conductors, and workmen are fixed at 72⅓, 69½, and 58 cents per day, respectively. Other details will be fully set forth in the specifications to be published, as previously stated, about May 1. Bids will then be received during a period of two months and the final award of the franchise will be made on or about July 1. These dates are not yet definitely settled, and their mention here being only approximate, does not involve any responsibility. All persons interested should at once address requests for plans and specifications to the burgomaster of Ghent. Copies will be forwarded by me to the Department of State and, as far as possible, to persons requesting them. At the same time, it should be noted that as the time for bidding is comparatively short, any firm anticipating the possibility of obtaining the award would do better to have a specially authorized agent on the spot.

Railroad Enterprise in Venezuela.—Consul Plumacher sends from Maracaibo, under date of May 6, 1897, a copy of the following communication from Consular Agent Senior, of Coro, in regard to the Coro and La Vela Railroad, now under construction. Consul Plumacher adds that he understands that the road will be continued to Alta Gracia, a town opposite the city of Maracaibo:

> On the 7th of March last, the American schooner *Lavinia M. Snow*, from New York, arrived at our port with lumber and iron for the construction of the Coro and La Vela Railroad. The work has been begun and it is presumed that the railroad will be in operation next May or June. Another schooner is expected with the rest of the materials.
>
> An American company, limited, of New York City, is conducting the enterprise and acts under the name of the Coro and La Vela Railroad and Improvement Company. The president of the company in New York is Mr. Jacob Baiz; the agents in Coro are Messrs. J. & A. Capriles.

Work on the Seoul-Chemulpo Railroad.—Consul-General Sill writes from Seoul, April 12, 1897, that work on the Seoul-Chemulpo road has been begun and is progressing favorably. The concession for this road was granted to James R. Morse, an American, on March 29, 1896. By the terms of the concession, work had to be begun within one year from the date of the concession, and it is a matter for congratulation to all Americans here that, in spite of difficulties, this stipulation was fully complied with.

An American at the Hanyang Iron Works.—Consul Child writes from Hankow, April 5, 1897, that Walter Kennedy, a citizen of Pittsburg, Pa., has, under the instructions of Sheng Taotai, taken charge of the iron works at Hanyang. He has been making good steel rails, 30 feet in length, at the rate of one hundred and twenty per day. He seems to understand his business, and the Chinese officials are well pleased at the skill he has evinced in getting their large plant in order. The rails are shipped to Shanghai, to be used on the Woosung Railroad.

A New Vegetable.—The following has been received from Consul Germain, of Zurich, under date of April 8, 1897:

In the vegetable market this winter I discovered a root plant named *Stachys affinis tubilifera*, said to be a novelty and an excellent vegetable for table use. Having never seen or heard of it before, I concluded that in case it had not been already introduced into the United States, it would, if cultivated there, prove a valuable and succulent vegetable addition. I purchased some, had it prepared for the table—boiled and stewed in the same manner as is done with parsnips or salsafy (vegetable oyster)—and found it to be a fine dish, in taste and flavor similar to fresh oysters and asparagus combined. I therefore purchased 7½ kilograms of roots, which I forward to-day to the Department of State, and would suggest that, if deemed expedient, they be turned over to the Department of Agriculture,* to be at once planted as an experiment, with a view to propagation, if found to germinate and thrive in the soils of our country.

These roots must be put in damp sand at once on arrival, or, still better, planted as per directions given below; otherwise, they will dry up, shrink, and become worthless.

Plant *Stachys affinis tubilifera* in thoroughly manured soil, trenched and well mixed to a depth of at least 2 feet; place from two to three roots in each hill, which must be from 16 to 18 inches apart. Fresh manure, especially that of horses, must be avoided.

Plant in April or early in May. Cultivate and weed soil well during the summer months. Dig up late in September or middle of October and put in damp sand or damp sandy loam in cellars, to exclude the air, and take out what is wanted during the winter months. If allowed to dry, the roots will shrink and lose their germinating qualities.

Prevention of Hailstorms by Means of Explosions.—Consul Germain writes from Zurich, April 14, 1897:

Mr. Albert Stiger, burgomaster of Windisch-Freistritz (Lower Steirmark, Austria), owns extensive vineyards, situated on the southern slopes of the Bacher Mountains, a locality often visited by destructive hailstorms. Some of his vines were destroyed by phylloxera a few years ago and he replaced them with American vine cuttings. Having expended a great deal of money and labor in the improvement of his lands and vines, he began to experiment to protect his crops from their worst enemy—hail. At first he purchased galvanized wire netting and stretched it over 5 acres of his best vines, but found the scheme too expensive for general application. He therefore concluded to try the shooting or explosive system, to scatter the clouds and drive away approaching hail or heavy rain storms. He erected six stations on the six most prominent summits surrounding the locality and commanding a territory of about 2 miles in extent. These stations, built of wood, shelter ten heavy mortars each. In the neighborhood of every station is a cabin, in which the necessary powder is stored. A corps of volunteers, consisting of neighbors who are also owners of small vineyards, have been trained to proceed to the stations and handle the mortars at the slightest indication of an approaching storm. The mortars are immediately manned and loaded with 120 grams of powder each (about 4¼ ounces) and shooting commences simultaneously and continues regularly out of the sixty mortars until the clouds have scattered and the storm has blown over. These experiments were anxiously watched by the citizens of Windisch-Freistritz last summer. Threatening black clouds made their appearance over the summits of the Bacher Mountains; at a given signal all the mortars were fired off, and the continuous detonations in a few moments caused a sudden reaction in the movements of the clouds. The cloud wall opened up funnel like, the mouth of the funnel began to rise in the form of consecutive rings, expanding gradually until all of the clouds scattered and entirely disappeared. There was no hail or even a sudden downpour of rain. The same experience was gone through six times last summer, and has without a single exception proven a successful preventive.

---

* The samples were sent to the Department of Agriculture May 15, 1897.

The World's Aluminium Output.—On April 7, 1897, Consul Germain writes from Zurich:

The aluminium production in the different countries, together with the horsepower employed and the daily capacity of each plant, is given in the following table:

Works.	Horse-power.	Average daily production.	
United States.			
Pittsburg Reduction Company's works:		*Kilograms.*	*Pounds.*
At Kensington, Pa.	1,600	906	1,993
At Niagara Falls, N. Y.	1,600	1,000	2,200
Switzerland.			
Aluminium Ind. Gesellschaft, Neuhausen	4,000	2,270	4,994
France.			
Société Electr. Mét. Franc., at Lapraz	2,500	1,360	2,992
Société Ind. de l'Aluminium, at St. Michel	2,000	1,134	2,495
Total	11,700	6,670	14,674

Or, in round numbers, 6,700 kilograms (14,740 pounds), giving at present an annual production of about 2,000 metric tons. The output during 1895 was about 1,200 metric tons. A considerable reduction in the price of aluminium, on account of the additions to works now in operation and their increase in horsepower capacity, as well as the contemplated erection of new plants, is imminent. In Great Britain, the British Aluminium Company has purchased the Irish bauxite pits, for the purpose of manufacturing aluminium at Larne

Harbor, near Belfast. The same company has bought water rights at Foyers Falls, in Scotland, where 4,000 horsepower is at its disposition.

The new addition to the Neuhausen works, which is to be operated by the Héroult system, will, when in operation, add 2,700 kilograms (5,940 pounds) to its daily production. A German-American syndicate has planned the erection of works for the manufacture of aluminium at the waterfalls of Sarpfoss, in Norway. The water power there, it is estimated, will produce 10,000 horsepower, and the plant is to be ready for operation some time in 1898. If they utilize 5,000 horsepower, a daily production of 3,000 kilograms will result. Further, the Neuhausen company is building new works, with water power to produce 10,000 horsepower, at Rheinfelden, Switzerland, and has also acquired water rights for similar purposes at Lend, near Gastein, in Austria.

These new additions (Rheinfelden, 6,000 horsepower; Foyers Falls, 3,000 horsepower; Sarpfoss Falls, 5,000 horsepower), as well as the increased horsepower capacities projected for the plants now in existence (the increase of 7,100 horsepower at Niagara Falls and 4,000 horsepower at St. Michel), will, in the year 1898, with an aggregate capacity of 33,000 horsepower, turn out an average of 19,300 kilograms (42,460 pounds) daily, or, annually, 5,790 metric tons. It becomes therefore evident that the price of aluminium will fall to about 3 francs (60 cents) per kilogram, or about 27 cents per pound, so that soon but three commercial metals will be cheaper than aluminium, namely, iron, lead, and zinc.

Swedish Regulations as to Imported Meat.—Consul Boyesen sends the following from Gothenberg, under date of April 7, 1897:

Referring to my report of April 17, 1896, concerning alleged shipments from Chicago, Ill., of horse meat under the name of "salted beef," I would inform the Department that I have this day received from the custom-house here a circular issued by the Swedish Government prescribing what measures Government officials will have to observe where meat is imported from foreign countries. I have informed the custom-house authorities here that all meat from the United States marked with the inspection stamp of the Department of Agriculture is meat from animals which are free from disease and in a good condition for slaughter.

[Translation of circular.]

By reason of a report from the Swedish and Norwegian consul-general at Antwerp to the board of trade, stating that Europe imported from America horse meat, dangerous to health, under the false name of "salted beef," and that, since measures had been taken in Germany and Belgium to prevent importation of such meat into those countries, attempts have been made to dispose of the meat in Sweden, the royal board of customs, according to authority granted by letter of the 5th instant, hereby instructs the proper customs authorities to report without delay to the proper board of health or vestry board, when import takes place of meat classified under the customs tariff denomination of "meat, other kinds, not specified," for such action as may be necessary according to the sanitary regulations.

A Substitute for Coffee.—Consul Deuster, under date of April 8, writes from Crefeld:

Believing that it will prove of interest to the malt-coffee manufacturers of the United States, I submit the following report for publication:

Under the firm name of Katheriner's Malz-Kaffee-Fabriken, factories have been established in Germany—of which one exists in this consular district, at Merdingen-on-the-Rhine, and others at Munich and Berlin—for the purpose of manufacturing a coffee substitute from cereals. The invention relates to an improvement in preparing the same, which consists in applying to the grain, during the steeping process, an electric current proportionate to the quantity and quality of the grain, whereby the proteid substances existing in the grain are altered in such a manner that, in the subsequent roasting process, only a small quantity of the products of decomposition (as pyridine and its derivatives, which are objectionable to the taste) can be formed, a substitute pleasant to the taste being obtained.

Under this patent, factories have also been established in Austria, Italy, France, Switzerland, and Sweden. The inventor has also applied for a patent in the United States.

American Apples in Germany.—The Department has received the following from Consul Monaghan, of Chemnitz, under date of April 23, 1897:

In order to let our merchants and farmers know that the chance to sell our apples in this Empire is still open, I send a free translation of an editorial in a leading Berlin paper.

It looks as if the American apple is not to be a transient guest, but a permanent resident here. About this time of the year, Bohemian and German apples disappear from the markets. If any are found, they are wretched things; or if they have been carefully kept, very dear. But the American apple that began to come last fall and conquered the German market has not only not disappeared, but is coming in enormous quantities. Last week saw 5,000 loads of beautiful, red Baldwins landed in the wholesale houses in Berlin and sold, according to quality, from 15 to 35 cents for 5 pounds. The 35 cents was paid, of course, for perfect apples. Those sold from wagons by street peddlers vary in price, but seldom go over 75 pfennigs

(18 cents) for 5 pounds. These, too, have no faults, except a slight bruise from pressure during the voyage. They are most excellent for household purposes.

It looks, too, as if American apples are to continue coming, not only during the next thirty days, but, experts say, even up to the arrival of continental apples next fall. This fact is very important for our farmers, producers, and merchants.

Another paper adds: "It is equally important to consumers."

If one may suggest something to our farmers and merchants, it would be to not only look carefully into the matter of picking, packing, and transportation, but also to know how soon and by whom the apples are to be handled upon arrival here. Housewives in Germany are eager to get our apples. The market has been made; it is only necessary to handle the business honestly and intelligently to secure it for all time.

German Emigration Statistics.—Consu. Monaghan writes from Chemnitz, April 8, 1897:

For many years, the United States has received the majority of German emigrants; in 1896, not less than 83 per cent of all the emigrants that left German ports sailed for the United States. The total number that left was 25,771. South America got 8 per cent, or 2,171, and nearly half of these went to Brazil, in which country German merchants and manufacturers are making every effort to get a firm foothold. A few went to Chile and Argentina; Peru and other South American States received very few. To Africa went 1,346, or 5 per cent. Thus North America, South America, and Africa took 96 per cent. The rest went to British North America, to the West Indies, Asia, Australia, and Polynesia. These figures, compared with those of ten years ago, are unfavorable to the United States. In 1887, of the 79,473 emigrants that sailed for places beyond the sea, we got 76,115, or 95 per cent. An editorial writer in the official organ in this city rejoices at this change. He hopes to see the percentage that goes to us grow smaller. He believes it to be best for the Empire's future. He sees in the men who settle in Africa and South America the advance guard of German interests in those places. They think that the Germans that go to us are lost to the Fatherland forever. No doubt this is true. It is not true, however, of those who go to South America and to Africa. I have every reason to believe that the best part of Germany's rapidly growing importance in those parts is due to the emigrants settled there. For a long time, statesmen have been considering the wisdom of regulating the emigration problem by getting and giving to persons bent on emigrating the very best information that German consuls, boards of trade, chambers of commerce, and emigration bureaus can furnish. Emigration so governed, guided, and watched must make much for the Empire's future in trade.

Germany's Success in Brazil.—On April 8, 1897, Consul Monaghan writes from Chemnitz:

Germany reports success in Brazil. Thither she has been sending all kinds of manufactured articles, such as hosiery, knit goods, dress goods, and cloths. Enormous quantities of ironware have been sent. Recently machines have been exported, and the trade is constantly increasing. Besides the above, she sends thousands of dollars worth of china, stone, and glass ware, paper, fancy goods, toys, musical instruments, beer, chemicals, dyes, some rubber goods, and the cheaper kinds of perfumery, soaps, and toilet articles. The one way in which Germany wins her way is in the continued interest felt in the Fatherland by the men and women who go out into foreign parts. In this they are encouraged by their consuls, merchants, resident German manufacturers, and by the people at home. None of the articles exported hence to South America can compare in quality or finish with the same classes of goods made in the United States, but they have been pushed by German agents who speak Portuguese in Brazil and Spanish in all other South American countries.

Germany's Commercial Travelers.—April 10, 1897, Consul Monaghan, of Chemnitz, says:

It is not always easy to get such interesting tables as the following, which shows how many foreign commercial travelers were in Switzerland in 1894–95. There were 15,171 Swiss and 4,496 foreign agents active in 1896:

Commercial travelers from—	1894.	1895.	1896.
Germany	3,310	3,246	2,952
France	653	794	1,051
Italy	175	209	235
Austria-Hungary	154	151	129
Great Britain	69	58	50

Of Germany's agents, 918 represented textile houses, 403 metal works, 344 paper factories, 197 food-producing concerns, 181 chemical and 165 hardware establishments. In the same way, Germany is working in our country, South America, Africa, and the East. To the indefatigable, intelligent, and enterprising efforts of its agents the Empire owes its present important position among exporting nations.

Scales in Germany.—The Department has received a letter from Consul Crane, of Hanover, dated April 12, 1897, in answer to a request by the United States Export Association, of New York, for information in regard to the use of scales in Germany. The letter, a copy of which has been sent to the United States Export Association, is as follows:

> In reply to your letter of the 5th of March, I subjoin the information furnished me by an intelligent and painstaking friend, to whom I referred your interrogatories:
>
> Scales are manufactured in large quantities in various parts of Germany, both for the home market and for export. The quality demanded is, on the average, high. The styles in vogue are almost countless. From my own observation, I should say that the principle of the bent lever, such as I think I have seen in the United States applied to letter scales, namely, that in which the graduation is according to the relation of horizontal ordinates of the curves described by the two ends of the lever, finds much more extensive application here than with our makers. Had you furnished me with a descriptive catalogue of some prominent American maker, I could have judged better.
>
> The regular terms of sale are three months or 2 per cent discount. There is also a trade discount varying with the market.
>
> The largest manufacturers in Hanover are Garvens & Co., Wuelfel-Hanover, and Wunder & Knaith, Hanover.
>
> Scales are sold by hardware dealers, dealers in agricultural machinery, stationers, and opticians.
>
> It is said that there is no chance for profitable importation, on account not only of the close competition, but also of the fact that imported instruments and weights would be subjected to the same governmental inspection and incident levy as the home article. The force of the latter, I confess I do not see. It does not appear that the tax would be any heavier on the American than on the German article.

Report of the North German Lloyd Steamship Company.—Consul Keenan sends from Bremen, under date of April 12, a report by the directors of the North German Lloyd Company. The consul remarks that the almost complete revolution effected by the company, with little disturbance and in a comparatively short time, by passing from a line of old vessels to one of practically new ones, is worthy of note. The substance of the report is as follows:

> The increase in the passenger traffic of our North Atlantic line, which we noted in our last year's report, did not continue until the end of the year. The total passenger traffic on this line did not equal that of the former year. The amount of freight carried was, however, satisfactory, and did not decrease during the year. The surplus in 1896 amounted to 10,677,557 marks ($2,502,258). After the money paid to the reserve funds, for taxes, for insurance, for interest, etc., was deducted, the balance was 1,702,306 marks ($405,148). Five per cent was paid to the reserve fund and 4 per cent on the stock capital of 40,000,000 marks ($9,520,000), leaving 17,191 marks ($5,790) to be carried forward in 1897. The four steamers—*Friedrich der Grosse*, *Barbarossa*, *Königin Louise*, and *Bremen*—will be used in the Australian service. The first two have received unqualified praise. The freight space of our boats was not sufficient to accommodate the goods shipped to East Asia. At the request of the Government, we have consented (in consideration of an increased subsidy of 1,500,000 marks=$357,000) to establish a fortnightly service on the East Asia line, instead of a monthly one. The steamers will have a minimum speed of 13½ miles, and Rotterdam will be a port of call for this line. Four new twin-screw steamers now being built will be put into this service. We think that this will result in further development of the trade relations between Germany and the East.

The Hohenshaufen steamers have been withdrawn from the North Atlantic, and entirely new boats will be used henceforth in this service. To carry the increased freight on the New York line, the four large twin-screw steamers of the *Barbarossa* class will be used when not engaged in the Asiatic service. The steamers will call at Southampton during the traveling season, as they have superior arrangements for cabin passengers. Cherbourg will continue to be a port of call for the Saturday steamers. The Tuesday steamers on the outgoing trips will stop at Southampton, but on the return voyage, between April 1 and October 15, will stop at Plymouth, so that passengers and mail for London may reach their destination earlier. In the New York service, the steamers *Kaiser Wilhelm II*, *Ems*, *Fulda*, and *Werra* are employed.

The steamers to La Plata have carried good cargoes of freight on the outgoing trips, but on the return voyages money has been lost. The Brazil steamers carried satisfactory quantities of freight on both the outward and inward trips. We have united with rival lines in the La Plata and Brazilian trade to maintain normal freight rates, and we have also joined with the Hamburg and South American line to establish a German colonization society, which shall promote emigration to South Brazil.

We sold seven boats during the past year, and there are now five less in the Atlantic service. The steamer *Trave* was overhauled in 1896; she received new engines, increasing her speed to 18 knots; the *Saale* will be altered in the same way, and will be ready for service by May 1. Three twin-screw steamers have been ordered for the Brazilian service, with an average of 3,600 tons.

A comparison of the passenger traffic of the transatlantic lines shows the following:

Lines.	1896.		1895.	
	Outward.	Inward.	Outward.	Inward.
New York line:				
Bremen	49,322	23,287	55,116	23,208
Genoa	18,557	15,676	13,426	11,718
Baltimore and Galveston line	14,049	4,049	9,867	3,850
South American line	13,332	2,917	9,853	2,125
East Asia line	8,040	4,640	8,384	4,724
Australian line	3,032	3,225	2,680	3,574
Total	106,352	53,794	99,326	49,199

The Lloyd transported up to December 31, 1896, 3,407,433 passengers.

The various lines carried [illegible]03,496 cubic meters of freight in the year 1896.

Mortality in Demerara.—Consul Patterson sends from Demerara, April 14, 1897, an article taken from the Daily Chronicle, of that city, reviewing the report of the health officer on the death rate. Consul Patterson adds that he is informed that the death rate in the surrounding villages will increase rather than diminish the percentage.

The article says, in part:

> The death rate is still in excess of the birth rate, a state of things which is most serious in view of the urgent need of the colony for population in order to develop its untouched resources. According to the report, in every 1,000 of the pop-

ulation there are two-fifths more deaths than births, the actual excess of deaths over births during the year being 131. The death rate—33.6 per 1,000 for the year—is, as is well known, largely swelled by infant mortality, which is still terribly high. With regard to the general mortality, it appears that 28 per cent of the total deaths were due to tuberculosis and diarrheal diseases—both largely preventable complaints.

The health officer urges the necessity for increasing our efforts in sanitary matters. If the cesspool system is not abolished, the city will some day be swept by disease as is Bombay at the present time. It is gratifying to know that since 1873 the death rate has steadily dropped from 54.39 per 1,000 to 33.6, but the decline is not nearly sufficient. Compared with the most overcrowded and unhealthiest towns of the United Kingdom, this rate is high, and it is nearly double the average of the mother country. It may not be considered fair to compare a tropical colony with such a standard, but it is evident that there is ample room for improvement.

Need of a Commercial Agency in Mexico.—Under date of April 24, 1897, Consul-General Donnelly, of Nuevo Laredo, says:

The number of letters received by myself and by the agent at Monterey, inquiring as to the credit of merchants doing business here, leads me to believe that there is an excellent opening in Mexico for a commercial agency. So far as I am informed, none such now exists. Americans seem to think that the procuring and imparting of information of this kind is a consular function, although consular officers are forbidden to report to private inquirers concerning the financial standing or commercial repute of business men or houses in their district. To refer such inquiries to banks or private parties is obviously unsatisfactory; no bank or other private concern cares to assume the responsibility. The result is that, with the cautious, business is impeded or prevented; with the incautious, imposition is common and losses frequent. Only a commercial agency, legally organized, reputable, and responsible, can do this work, so essential to the safeguarding of trade. Such agency would certainly have an immediate clientage of American merchants whose Mexican trade is constantly expanding; and, I doubt not, a large patronage of Mexican merchants, whose business is being conducted more and more after American methods. I consider a commercial agency one of the pressing mercantile needs of this Republic; and it should be under American auspices. It is a good opportunity for American enterprise—a promising investment for American capital.

Banana Cultivation in Santo Domingo.—Consul Grimke writes from Santo Domingo, under date of April 22, 1897:

A concession for twenty-five years was recently granted by the Dominican Government to Enrique Dumois, a French citizen, for the cultivation of bananas on an extensive scale. American capital is embarked in the enterprise through Mr. George Dumois, a nephew and partner of the concessionary and an American citizen, I am informed. The company has secured a large tract of land at La Romana, situated about 60 miles east of this city and including what is said to be the best harbor in the Republic, being without bar, well protected from winds, and of such depth as to permit vessels drawing 18 feet of water to enter and anchor. Sixty thousand banana trees have aleady been planted and 400,000 more are to be planted next year. The market for the annual crop will be the United States, and from our country, Mr. Dumois informs me, the company will also purchase its annual supplies. An exclusive right to establish and operate a petroleum refinery is included in the concession. Already the machinery, lumber, etc., for the erection of this establishment have been purchased in the United States for $30,000 and been landed at La Romana, where the refinery is now in process of construction. The crude petroleum will, of course, come also from the United States. Three American engineers will be placed in charge of the plant. The refined oil is to be sold in the Dominican Republic, and as the machinery, lumber, crude petroleum, and all materials for the use of the refinery are exempt from the payment of duties, the company will practically enjoy what will amount to a monopoly of the sale of refined kerosene oil in this country.

Nobel Prizes for Scientific Discoveries.—Minister Ferguson writes from Stockholm, under date of May 7, 1897:

I inclose an extract from the will of Alfred Nobel, which was published in the Stockholm Nya Dagligt Allehanda, on January 2, 1897, relating to his bequest for prizes. The will was dated Paris, November 27, 1895, and after disposing of about 2,000,000 kronor in legacies to relatives, servants, etc., directs that the remainder be devoted to the objects set forth in the extract which I inclose. The amount thus devoted to the advancement of science and literature is estimated to be between 30,000,000 and 35,000,000 kronor and it is thought that it will yield 3 per cent per annum income, or from $240,000 to $270,000, to be annually distributed in five prizes. Each individual prize will therefore be worth between $48,000 and $55,000.

Messrs. Ragnar Sohlman, of Bofors, Sweden, and Rudolf Liljequist, of Stockholm, Sweden, who now resides at Bengtsfors, Uddevalla, are named executors. I have written to them for information, which I will transmit when received. I have also written to the vice-consul at Christiania to ask him to transmit to the Department direct a copy of the communication made by the executors to the Storthing informing it of the bequest.

I understand that several of the heirs at law of Mr. Nobel are contesting the will and that it may possibly be years before the executors will be able to distribute the prizes.

As I receive a great many letters from students and investigators from all parts of the United States making inquiry as to the distribution of the prizes, and as the munificent bequest of Mr. Nobel has created a very widespread interest, I would respectfully suggest that the information I send from time to time be given to the press.

[Translation.]

My total remaining fortune, when capitalized, shall be disposed of in the following way: When the capital has been converted into good securities by the trustees, it shall form a fund, the interest of which shall be distributed annually as prizes to those persons who shall have rendered humanity the best services during the past year. The interest shall be divided into five equal portions, which shall be distributed as follows: One-fifth to the person having made the most important discovery or invention in the science of physics, one-fifth to the person who has made the most eminent discovery or improvement in chemistry, one-fifth to the one having made the most important discovery with regard to physiology or medicine, one-fifth to the person who has produced the most distinguished idealistic work of literature, and one-fifth to the person who has worked the most or best for advancing the fraternization of all nations and for abolishing or diminishing the standing armies as well as for the forming or propagation of committees of peace. The prizes for physics and chemistry shall be awarded by the Royal Swedish Academy of Science; that given to works of physiology and medicine, by the Carolinska Institute at Stockholm; the prize for literature, by the Royal Swedish Academy at Stockholm; and the prize given to the propagators of peace, by a committee composed of five members, who shall be selected by the Norwegian Storthing. It is my absolute wish that no importance shall be attached to any difference of nationality in awarding the prizes, which, consequently, shall be given to the most competent person, whether Scandinavian or not.

French Machinery on the Panama Canal.—The following has been received from Consul-General Vifquain, dated Panama, April 21, 1897:

In my dispatch of August 22, 1896, I referred to some American machinery (the Ledgerwood hoister and carrier cable) bought by the Panama Canal Company and put up for work. I also referred to a French machine of the same kind put up immediately afterwards. The latter has not proven a success, while the former has, and, of course, the American manufacturers had good reason to expect new orders. I have just been informed that an order has been issued by the Panama Canal directorship in Paris that everything used for work on the canal must be of French manufacture or product. Nearly every mail brings me catalogues or letters from American manufacturers, and I have made it a point to send them at once to the canal office here, where they are always welcome. Hereafter our manufacturers may as well save postage.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) were transmitted during the month of May to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
Van Leer Polk, Calcutta	Feb. , 1897	Indian crop reports	Department of Agriculture.
Do	Mar. , 1897	do	Do.
J. M. Wiley, Bordeaux	Feb. 15, 1897	French vintage of 1896	Do.
A. Christensen, Elsinore	Jan. 18, 1897	Fog signals for steamers	Treasury Department.
T. M. Stephan, Annaberg	Dec. 23, 1896	Straw plaiting in Germany	Department of Agriculture
Geo. Sawter, Glauchau	Feb. 5, 1897	Artificial silk in Germany	Do.
Eugene Germain, Zurich	Feb. 2, 1897	American women at Zurich	Department of the Interior.
Henry C. Morris, Ghent	Apr. 2, 1897	The National Bank of Belgium.	Treasury Department.
Robt. J. Kirk, Copenhagen.	Feb. 19, 1897	Treatment of plants with ether.	Department of Agriculture.
D. W. Maratta, Melbourne	Feb. 28, 1897	Australasian gold	Treasury Department.
E. W. S. Tingle, Brunswick.	Apr. 8, 1897	American cheese in Germany.	Department of Agriculture.
Eugene Germain, Zurich	Mar. 10, 1897	Cure of the South African cattle plague.	Do.
Do	Mar. 9, 1897	Swiss imports of domestic animals.	Do.
P. B. Spence, Quebec	Apr. 3, 1897	Agriculture in Canada	Do.
Eugene Germain, Zurich	Apr. 8, 1897	Stachys affinis tubilifera (new vegetable).	Do.
E. F. Bishop, Chatham	Apr. 14, 1897	Agriculture	Do.
John Karel, St. Petersburg	Feb. 15, 1897	Measures to exclude the Indian plague from Russia.	Marine-Hospital Service.
Do	Feb. 6, 1897	Cattle plague in Russia	Department of Agriculture.
Van Leer Polk, Calcutta		Indian Government agricultural reports.	Do.
Wm. H. Seymour, Palermo	Mar. 19, 1897	Sicilian fruit industry	Do.
Louis H. Brühl, Catania	Apr. 6, 1897	do	Do.
Chas. M. Caughy, Messina	Mar. 31, 1897	New adulterant for essential oils.	Do.
D. B. Mason, Frankfort	Apr. 12, 1897	Professor Koch's new tuberculine.	Marine-Hospital Service.
T. R. Jernigan, Shanghai	Feb. 16, 1897	American cotton at Shanghai.	Department of Agriculture.
S. Comfort, Bombay	Feb. 10, 1897	Wheat and rice in India	Do.

Navigation Improvements on Rainy River.—Consul Duffie writes from Winnipeg, February 6, 1897:

The Dominion Government has appropriated $15,000, to be expended in the improvement of navigation in the international waters of Rainy River, at a point named Long Sault Rapids. The river at this point is between 600 and 700 feet wide. The engineer in charge of the work is at present on the ground making surveys, and I am informed will shortly begin the removal of bowlders and the construction of wing dams. All steamers engaged in navigation on Rainy River are registered as British built and owned by British subjects. I send a map of Rainy River under another cover.*

Street Railways in Dusseldorf.—Consul Stephan, of Annaberg, sent to the Department, under date of April 27, 1897, information in regard to the change of motive power in the street-railway system of Dusseldorf, with copies of specifications, plans, etc. It is intended to substitute electricity for the old horse-car system. This information was given to the press on May 13. On May 28 (received June 8), Consul Stephan writes further that the specifications have been changed. The specifications consist of voluminous documents in German, which are held in the Department for the use of any contractors who may wish to consult them. It is to be noted that no bids will be received after July 1. Consul Stephan incloses in his communication of May 28 a statement of the receipts of the old street railway during the last three years. The figures for 1896 are: Amount received in fares, 773,901 marks ($184,188); net receipts, 239,775 marks ($57,066). The town received three-fourths and the company one-fourth of the net receipts.

---

* Filed in Bureau of Statistics, Department of State.

FOREIGN REPORTS AND PUBLICATIONS.

French Commerce in 1896.—The Annales du Commerce Exterieur, Paris, 1897, third number, gives the following statistics of French commerce for the past year:

The imports amounted to 3,837,100,000 francs ($757,508,300), an increase over 1895 of some $40,000,000; the exports were 3,404,600,000 francs ($657,087,800), nearly $6,000,000 more than during the preceding year. The commerce of France with the United States in 1896 was as follows:

Description.	Imports.		Exports.	
	Francs.		*Francs.*	
Alimentary products	39,900,000	$7,640,700	22,300,000	$4,303,909
Materials necessary for the industries	231,100,000	44,602,300	50,100,000	9,669,300
Manufactured articles	12,200,000	2,354,600	216,300,000	41,745,900
Total	283,200,000	54,597,600	288,700,000	55,719,100

Foreign Commerce of Switzerland in 1896.—The Moniteur Officiel du Commerce, Paris, April 1, 1897, says:

Swiss imports, which in 1895 amounted to 915,000,000 francs ($176,595,000), reached in 1896 the figure of 993,000,000 francs ($191,649,000). The exports were 688,000,000 francs ($132,784,000), against 663,000,000 francs ($122,169,000) in 1895. Comestibles were among the principal articles imported. It is curious that an agricultural country like Switzerland should find it necessary to import such quantities of poultry, eggs, butter, apples, etc.

Special Commerce of Norway in 1896.—The Moniteur Officiel du Commerce, Paris, April 1, 1897, has the following figures:

The commerce of Norway was better during 1896 than during 1895. The imports rose from 89,500,000 kroner to 101,000,000 kroner ($27,068,000), and the exports from 93,000,000 kroner to 102,500,000 kroner ($27,470,000). The increase in imports is partly due to the introduction of locomotives and machinery of various sorts. The steady growth of wines is also to be noted. The exports show a decrease in the sale of fish and an advance in butter, ice, and wood.

Commerce of Hungary in 1896.—From the Moniteur Officiel du Commerce, Paris, March 11, 1897, the following communication is taken:

The national bureau of statistics of Hungary has just published the quantity of the commercial movement of Hungary during 1896; the values will be announced later. There were 3,931,115 tons of imports, consisting of 384,908 pieces; the exports amounted to 6,790,232 tons of 4,358,098 pieces. It will be noted that there has been an increase of 171,598 tons in imports over the figures given for last year and 1,144,866 tons in exports. It is the first time for many years that such an increase in exports has been registered; it consists principally of cereals, wood, coal, sugar, and minerals. Of wheat, 734,536 tons were exported during 1896—over six times the quantity imported.

Commerce of Servia in 1895.—The Moniteur Officiel du Commerce, Paris, February 4, 1897, has the following report from Belgrade:

The imports during the year 1895 amounted to 28,239,715 francs ($4,550,264) and the exports to 43,390,451 francs ($8,374,357). Both in imports and exports there is a notable decrease from the figures given for 1894. This is due, so far as the exports are concerned, to the measures taken to prohibit the importation into Hungary of cattle from Servia. The raising of hogs, one of the principal industries of the country, has thus suffered seriously. The commercial condition of the country in 1896 has been better. Most of the imports come from Austria.

Foreign Commerce of Roumania in 1895.—The Moniteur Officiel du Commerce, Paris, April 1, 1897, says:

The exports from Roumania in 1895 amounted to 256,048,411 francs ($49,417,343), nearly 50,000,000 francs less than during 1894. This decrease was due to the crisis in the market for cereals. The imports were 304,574,517 francs ($58,782,881) in 1895, over 1,000,000 francs less than during the preceding year.

Development of Cotton Spinning in Germany.—A report to the Moniteur Officiel du Commerce, Paris, March 4, 1897, says:

The growth of the cotton-spinning industry, which was noted two years ago in Germany, has increased recently in a remarkable manner, owing to the favorable conditions which were presented during the year 1896. For a time the factories were unable to supply the demand; at the beginning of August the spinners had already sold in advance their entire production for the year. Profiting by the rise in cotton, they advanced the price of thread 10 per cent, and, strange to say, the latter was not subject to the depression of 20 per cent which the price of raw materials has since undergone. New factories were built, additions made to the old ones, capital invested, and the industry showed signs of surprising development in various parts of the Empire—in Saxony, in Westphalia, in Silesia, in South Germany, in Alsace, and in the district of Mulhausen, in Thuringia, where more than 20,000 hand weavers were employed, and where, until now, there was not a single mill. It is thought, however, that the limit of consumption has been reached, and if the production continues at its present rate, the market will be overstocked and a crisis ensue. The situation in Austria and Italy is held up as a warning to German manufacturers. Another important industry which is threatened with serious difficulties is that of jute.

Beer in Germany.—The Moniteur Officiel du Commerce, Paris, April 15, 1897, quotes from the Berlin Industrie these figures:

The quantity of beer produced in Germany during 1896 was 60,695,000 hectoliters (1,603,240,510 gallons). The production has almost doubled in the last twenty years. The imports of beer are of no great importance, although they show steady growth. The quantity of beer exported increased regularly until 1888, but since that time, owing to foreign production, the exports have diminished. The apparent consumption for 1896 was 305 gallons per head of the population.

International Exposition at Glasgow in 1901.—The Moniteur Officiel du Commerce, Paris, February 18, 1897, has the following paragraph:

It has been announced that an international exposition of liberal arts and industries will be opened in Glasgow in 1901. The exposition will be held in the same buildings (with additions) that were used for the exposition of 1888. The amount necessary to cover the cost of the enterprise has already, it is said, been subscribed. Coming, as it does, immediately after the Paris Exposition of 1900, it would seem that the exposition of Glasgow would hardly attract many strangers; but it must not be forgotten that the exposition which took place here in 1888 was one of the very few which were successful from a financial standpoint.

Public Sale of Wool in Antwerp.—A paragraph in the Moniteur Officiel du Commerce, March 18, 1897, is as follows:

The first public sale of wool on the market of Antwerp took place from the 16th to the 18th of February. There were offered and sold as follows:

From—	Offered.	Sold.
	Bales.	*Bales.*
Buenos Ayres	3,915	2,081
Montevideo	2,142	917
Entre Rios	551	502
Rio Grande	227	27
Total	6,635	3,527
Australia	739	310
Cape	632	52
Spain and elsewhere	762	380
Total	1,863	742
Grand total	8,498	4,269

The bidding was animated, both on the part of native and foreign buyers. English and American purchasers carried off most of the good wool. The price paid was from 5 to 10 centimes (1 to 2 cents) less for sheep's wool and 5 centimes less for lambs' wool than at the time of the public sale in November.

Dairy Products of English Colonies.—La Quinzaine Coloniale, Paris, April 10, 1897, quotes the following figures from the London Times:

There were in Australasia, in 1891, 945,575 cows, producing 23,000 tons of butter and 6,700 tons of cheese; there were in Canada during the same year, 1,857,112 cows, producing 51,700 tons of butter and 51,000 tons of cheese. In 1895, Australasia had 1,100,000 cows, giving 36,000 tons of butter and 11,500 tons of cheese; Canada had 195,000 cows, with 52,000 tons of butter and 68,000 tons of cheese. This production, although large, is yet not enough to supply the demand in the mother country, which imported in 1896, 264,124 tons of butter and cheese, of which only 80,000 tons came from her colonies, the rest being furnished by the Continent.

Construction of a Railway in Peru.—The Moniteur Officiel du Commerce, Paris, February 4, 1897, says:

With the object of favoring the construction of the railroad between Lima and Pisco, with possible branches to Callao and to the Ica Valley, the Government has decided to grant exemption of duties on the material for a period of twenty years; also 25,000 hectares of land (1 hectare=2.471 acres). All taxes will be remitted, and the right of appropriating the land necessary for the road or the works is granted. The Nouveau Monde says that the region traversed by the projected line has many resources, and the enterprise has a good chance of success.

Demand for Machinery in Brazil.—A letter to the Moniteur Officiel du Commerce, written from São Paulo and published on January 28, 1897, says:

The attention of the industrial world should be called to the waterworks which are being contemplated and executed in the province of São Paulo, as well as to the plans for illuminating a number of the cities. In the city of São Paulo, a water meter of American invention is in general use, and most of the apparatus used in water, gas, and electrical works in the province has been furnished by England or the United States. But there are a number of cities which contemplate the introduction of systems for supplying water or for illumination, and there is a good opening for French enterprise. San Carlos de Pinhal, with 12,000 inhabitants; Rio Claro, with 10,000; Araraquera, with 8,000; Pirassunungua, with 6,000; Lemo, Descalvado, Brotas, and Porto Ferreira may be mentioned. In some fifteen cities, whose populations range from 5,000 to 15,000, waterworks are already under way. According to a recent decree, all the cities of the province are obliged to provide themselves with drinkable water, and plans are being everywhere studied.

Commerce of Costa Rica in 1895.—The Moniteur Officiel du Commerce, Paris, February 11, 1897, gives the following figures:

The total value of the importations into Costa Rica during the year 1895 was 19,257,301 francs ($3,716,669). About $1,000,000 worth of the above came from the United States. The exports amounted to 25,942,008 francs ($4,106,804), and consisted principally of coffee, bananas, and wood. Nearly half of this amount went to England, where the coffee sells at a good price. The United States comes next on the list of countries which import the products of Costa Rica; more went to New York than to San Francisco. Large numbers of bananas go to the United States. They are packed while in a green condition and shipped from Port Limon in vessels specially constructed for the purpose. It takes but five days to reach New Orleans and seven days to reach New York, and the fruit arrives in good condition. The railway from San José to Port Limon passes through the banana-producing region—low-lying lands near the coast. About 5,000 hectares (12,355 acres) are employed in the cultivation of the fruit, which is remunerative. The labor is performed by negroes from Jamaica and the Antilles, who alone are able to endure the unhealthy climate. The gold mines of the country are beginning to be profitable.

Railroad in Angola.—La Quinzaine Coloniale, Paris, March 25, 1897, quotes the following from the Revue Scientifique:

The railway line in the Portuguese colony of Angola is one of the longest in West Africa. Since 1894, 260 kilometers (161.55 miles) have been opened; and to-day it comprises 363 kilometers (225.55 miles). It starts from Loanda, which, although it has lost much of its former importance, has still no less than 50,000 inhabitants, some 1,200 or 1,500 of whom are Europeans. The end of the line is at Ambaca-Lucalla. The rails are of steel, and weigh 20 kilograms (about 44 pounds) a meter. The sleepers are not of metal, but of fir, chemically treated, which prevents the ravages of ants. The average cost of constructing the line, including the interest on the money invested, was 111,110 francs per kilometer ($21,444 per 0.62137 mile). If the taxes and the difference between the nominal and the issue price of the bonds are taken into consideration, the cost per kilometer amounts to 144,000 francs ($27,792), which is not excessive when the numerous difficulties in the way of construction are remembered.

The question of labor was easily solved. As soon as it was decided to build the railroad the natives came in crowds to offer their services. In 1890, there were 3,000 men employed on the works; the system followed was that which had been successfully practiced in the construction of the railway in the Belgian colony in the Kongo. A number of negroes would undertake a certain section for a price agreed upon beforehand, varying according to the apparent difficulty of digging, etc. When the job was completed, the contractor would pay the specified amount, distributing it to each one according to the proportion of work, which, in the opinion of the majority, he had performed. A corps of European engineers, mostly French, had charge of the works. The technical instruction of the negroes progressed rapidly during the construction. It may be said that they manage the line at present. The personnel of the telegraph service is composed of natives; in the workshops, carpenters, masons, plasterers, painters, smiths, etc., are negroes who have learned these trades from foreign instructors; they are employed as firemen, etc., on the road.

The locomotives weigh, on an average, 25 tons. The trains make a speed of 20 kilometers (12.42 miles) an hour as far as Oeiras; from there to Delatando, 15 kilometers an hour; and for the rest of the route, 20 kilometers. It formerly took ten or twelve days to go from Loanda to Ambaca. It now takes about twenty-three hours. The line promises to be successful from a financial standpoint, and it is thought that there will be no necessity to have recourse to the guaranties offered by the Government.

Commerce of Mauritius in 1895.—A letter from Port Louis to the Moniteur Officiel du Commerce, published on March 11, 1897, says:

The commercial movement of the island with foreign countries in 1895 was as follows: Imports, 30,506,571 rupees ($7,047,018); exports, 29,796,314 rupees ($6,882,948). Grain and flour, which head the list of the principal articles imported, came almost exclusively from India. The value of imports from the United States was 799,713 rupees ($184,733); cotton goods constituted about half of this amount. Sugar and aloes wood were the principal articles exported from Mauritius during the year.

Industrial and Agricultural Condition of Madagascar.—The Revue du Commerce Exterieur, Paris, April 17, 1897, has the following communication:

There are no manufactures at Madagascar and no capitalists. The iron industry might be carried on with good results were it not for the entire lack of coal. Copper has been found, but in such small quantities that it is not worth while to work it. The gold mines, however, are productive, and will probably be a source of much wealth. The land, although good for pasturage, does not give satisfactory returns for cultivation, except for vanilla, cacao, Liberian coffee, and rubber. In all of these, there is money to be gained. Vanilla gives at the end of four years a revenue of about 5,000 francs (some $1,000) per hectare (2.471 acres). Cacao begins to yield after four years, and is fully grown at six. A mean revenue of 5 francs (about $1) per tree can be counted on. Liberian coffee, although it commands an inferior price, grows in great abundance.

In such enterprises, a capital of at least 50,000 francs ($9,650) must be invested, but they pay 200 per cent. In Venezuela, land for cultivating cacao costs 6,000 francs ($1,158) per hectare; here it is only 5 francs (about $1) per hectare. Not a few colonists are beginning to take advantage of these conditions. In the neighborhood of Manahoro alone there are thirty-four French settlers who are cultivating plantations.

Mahogany on the Ivory Coast.—La Quinzaine Coloniale, Paris, February 25, 1897, says:

The exportation of mahogany is becoming an important industry on the Ivory Coast. During the last three months of 1896 it amounted to 6,709,384 pounds, against 2,194,264 pounds for the corresponding period in 1895. England and Germany have mainly profited by this increase. The wood comes principally from Assinie and Grand Bassam. It is cut by the natives and brought to Frembo. The prices range from 35 to 40 francs ($7 to $8) per stere (35.31 cubic feet), with the bark.

The Cotton Season in Egypt.—The Moniteur Officiel du Commerce, Paris, January 28, 1897, has the following:

The past season has been satisfactory, showing an exportation of 285,996 tons, against 265,613 in 1895. The prices, which were variable in 1895, ranging from 7 to 13 talaris per cantar (about $7 to $13 per 110 pounds), have been steady during the past season, remaining at 11 talaris. The importation of Egyptian cotton into the United States is growing every year. For the season ending in 1896, it amounted to 25,000 tons, an increase of about 6,000 tons over 1895. England receives about half the amount exported. With the exception of the two countries mentioned, Egypt finds the largest market for her cotton in Russia, France, Austria-Hungary, and Germany.

Industrial Exposition at Calcutta.—The following is taken from the Moniteur Officiel du Commerce, Paris, March 11, 1897:

Beginning on January 1, 1897, and lasting three days, an industrial exposition was held at Calcutta, to show the local productions which could compete with those imported from Europe. The principal articles were soaps, candles, foot wear, woolen, cotton, and silk goods, jewelry, mirrors, hardware, glassware, dentists' supplies, ink, perfumery, ropes, pottery, native musical instruments, violins, confectionery, alimentary products, biscuits, arrowroot, barley meal, locksmith's wares, and rice-hulling machines. None of these articles are of as good quality as the imported ones; but they are used by the natives, and are very cheap. The people of India are gradually beginning to manufacture their own supplies. They will not make such progress in this line as has been made by the Japanese, as they have not the same faculties of imitation and assimilation. But the cost of labor is cheaper in India than anywhere in the world, and they will eventually be able to supply all their own needs by local manufactures.

Australian Mother-of-Pearl Industry.—The Moniteur Officiel du Commerce, Paris, March 18, 1897, says:

The mother-of-pearl industry is one of the natural sources of wealth of Australia, but in recent years it has undergone an unfortunate crisis. Statistics as to the production of the oyster banks of North Queensland show that the value of the exportation in 1894 was £94,152 ($458,190), but these figures can not be considered absolutely exact, because the various companies engaged in this work prefer to keep the amount of their profits secret. The decline in the industry is to be attributed to the destruction of the young oysters of the meleagrina genus, which Government regulations and the plan of fishing in systematic rotation have failed to entirely check. Experiments made to find the time necessary for the development of mother-of-pearl show that, under favorable conditions, three years are enough for a deposit of 8 or 9 inches in diameter, and about five years for a pair of shells weighing 5 or 6 pounds. Two varieties of nacre are found here; one with edges of a slightly gold color and the other with a silvery surface on the interior; the latter is most used in commerce, and is found principally in the bed which stretches from the northeast of Cape York to the north of the Great Barrier Coral Reef, the length of Torres Strait, as far as the north coast of New Guinea.

About a thousand persons are employed in Torres Strait in fishing, caring for the stations, repairing boats and apparatus, and also in preparing the mother-of-pearl for transportation. The boats employed in this work are known as lugger-rigged craft, having a capacity of about 10 tons each; these are usually accompanied by cutters to carry provisions and to convey the mother-of-pearl to the stations on land. The men employed are usually natives of the islands, and the best divers are Chinese, Japanese, or Malays. The white people occupied in this industry are generally owners of the boats. The cost of a fishing lugger is about £650 ($3,763), and some $700 or $800 more must be added for the diving apparatus, etc.

The men are paid as follows : A diver receives on an average £3 (about $15) for one hundred pairs of shells. The tender receives £3 and the four men at the pump £2 10s. (about $12.50) each a month. The food for the men amounts to about £9 ($43.80) a month. To cover these expenses and make a profit, a boat must receive at least six hundred or seven hundred pairs of shells a month, which represent about a ton in weight.

Trade Methods in South America.—The Venezuelan Herald, of Caracas, in its edition of May 22, 1897, quotes from the South American Journal an article written by an Englishman, in regard to the means of improving commercial relations with South America. An extract from the article is as follows:

There has been a great deal of talk about doing away with the middleman between the manufacturer and the consumer, which many "outsiders" seem to think "a consummation devoutly to be wished." When, however, the matter is studied carefully, it will be seen that the abolition of the merchant is neither practical nor desirable. The principles laid down by soundest political economists strongly uphold the advantages of division of labor and the concentration of each man's energies upon the work for which he is best fitted. It is clear that the qualifications which secure success as a merchant are quite of another order from those required to make a successful manufacturer. But, apart from the abstract principle, it is obvious that the supplying of South American markets can not be carried on effectively unless some one undertakes to keep stocks of goods on the spot and conforms to the practice as to giving credit. Very few manufacturers have the capital to do this, nor could they give the attention to the business it requires.

In Buenos Ayres, and, I believe, in some other American markets, it has long been the custom for the actual selling of goods to the shopkeepers to be done through brokers, or, as they are more appropriately styled in Spanish, corredores (runners). When I commenced business as an importing merchant in the Argentine capital, I had the idea, being young and active, that the services of the brokers were unnecessary, and I tried to do business direct with my customers. I soon discovered my error. If I succeeded in obtaining an order, the broker looked for his commission all the same; if he did not get it, then the next orders he secured were not placed with my firm. It was no use fighting with the system—the customers were quite as much against it as the brokers. They may have been dealing with our importing house for years, and yet have no personal acquaintance with the principals; perhaps a visit from one of them would be regarded as rather a suspicious than a friendly act, the idea being that the merchant came to spy the land; though he might speak the language and be very affable, the shopkeeper would not be at his ease. On the other hand, the broker was probably his chum and boon companion, whom he was always glad to see.

It is the metier of those who wish to succeed as brokers to cultivate social relations with their clients. They generally know all the latest gossip, the newest stories, and do not pester a man with dry business when they find him in a festive mood, but will be prepared to spend hours in badinage or at the café, without even mentioning "the shop." Many a sale is thus effected by those who know how to deal with Spanish and Italian people in the leisurely fashion in which they like to do their business, where a European traveler would only be snubbed. In the confidence engendered over a friendly glass, a shrewd broker can elicit many a valuable hint as to how a man's business is going and what he is thinking of doing. Circulating constantly among the buyers, the brokers have the best opportunities of learning the state and prospects of trade, the amounts of stocks, etc., the proper assortments of goods, and they—not the merchants—have really the command of the market.

My suggestion to British merchants is that they should cultivate more intimate relations with local brokers, even if they have to employ fewer travelers. The system of sending out travelers appears to be rather overdone, as a proof of which I may cite the instance, mentioned in my last article, of thirteen Manchester travelers being in such a place as Bogotá at the same time. The broker is always on the spot, knows his customers well, just when he ought to call upon them, and how they should be treated.

Of course, there will be difficulties to be overcome in carrying out the idea I have suggested. Capable and reliable brokers are not so numerous as to be readily picked up as agents, and they would have to be paid a retaining salary as well as commission, but I believe that the outlay would be less and the results much better than the cost of travelers. The agents should be visited regularly by a member of the home firm. I am convinced that this is the proper system to push business, especially with new articles. These always require special efforts on the part of an agent to introduce them, and he has, therefore, a claim to be appointed sole agent after a trade has been established.

Removal of Duty on Windmills in Venezuela.—The following paragraph appears in the Venezuelan Herald, of Caracas, May 22, 1897:

After the third reading by Congress, in its session of the 18th, the change in the custom-house duties affecting windmills was accorded.

With the motive of encouraging agriculture and irrigation, windmills will enter all the ports of the Republic free of duty after the 1st of June. The adoption of such generous measures calls forth the most hearty congratulations.

If American manufacturers possess the finesse so universally accorded them, they will not lose sight of the propitious moment for flooding the country with this precious apparatus, which is specially adapted to the needs here and which, by its moderate price, is within the range of the humblest agriculturist.

Vol. LIV. No. 202.

CONSULAR REPORTS.

JULY, 1897.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE THIRD PAGE.]

DEPARTMENT OF STATE * UNITED STATES OF AMERICA *

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1897.

PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.*

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—Commercial Relations, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—Consular Reports, issued monthly, and containing miscellaneous reports from consular officers.

III.—Advance Sheets, Consular Reports, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—Exports Declared for the United States, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—Special Consular Reports, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as Consular Reports No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled Special Consular Reports. There are now the following Special Consular Reports:

Vol. 1 (1890).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (1891).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (1891).—Streets and Highways in Foreign Countries.

Vol. 4 (1892).—Port Regulations in Foreign Countries.

Vol. 5 (1892).—Canals and Irrigation in Foreign Countries.

Vol. 6 (1892).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (1892).—The Slave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (1892).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (1892 and 1893).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (1894).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (1894).—American Lumber in Foreign Markets.

Vol. 12 (1895).—Highways of Commerce.

Vol. 13 (1896 and 1897).—Money and Prices in Foreign Countries.

Of these Special Consular Reports, American Flour, Australian Sheep and Wool, Canals and Irrigation, Cotton Textiles in Foreign Countries, Files in Spanish America, Fire and Building Regulations, Fruit Culture in Foreign Countries, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation, Streets and Highways in Foreign Countries, and Tariffs in Foreign Countries are exhausted and no copies can be supplied by the Department.

Of the monthly Consular Reports, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving Consular Reports regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

---

* Formerly Bureau of Statistics. See the order of the Secretary of State (next page) directing the change of name.

THE BUREAU OF FOREIGN COMMERCE.

From and after July 1, 1897, the Bureau of Statistics, Department of State, will be known as the Bureau of Foreign Commerce, in accordance with the following order of the Secretary of State:

DEPARTMENT OF STATE,
Washington, July 1, 1897.

Under the authority conferred upon me by chapter 268, United States Statutes at Large, Fifty-fourth Congress, second session, under the heading "Publication of Diplomatic, Consular, and other commercial reports," the name of the Bureau of Statistics of this Department is hereby changed to the Bureau of Foreign Commerce, and the title of the Chief of the Bureau of Statistics shall hereafter be Chief of the Bureau of Foreign Commerce.

JOHN SHERMAN,
Secretary of State.

The reasons for the change are set forth in the following report from the Chief of the Bureau of Statistics to the Secretary of State:

DEPARTMENT OF STATE,
Washington, June 30, 1897.

Honorable JOHN SHERMAN,
Secretary of State.

SIR: I have the honor to call your attention to the clause in the diplomatic and consular appropriation bill for the fiscal year ending June 30, 1898, approved February 20, 1897, which provides for the publication of diplomatic, consular, and other commercial reports. (See page 590, United States Statutes at Large, Fifty-fourth Congress, second session.) The paragraph reads as follows:

> Preparation, printing, publication, and distribution, by the Department of State, of the diplomatic, consular, and other commercial reports, twenty-five thousand dollars; and of this sum the Secretary of State is authorized to use not exceeding three thousand one hundred and twenty dollars for services of employees in the Bureau of Statistics, Department of State, in the work of compiling and distributing such reports, and not exceeding two hundred and fifty dollars in the purchase of such books, maps, and periodicals as may be necessary to the editing of diplomatic, consular, and other commercial reports: Provided, That all terms of measure, weight, and money shall be reduced to, and expressed in, terms of the measure, weight, and coin of the United States, as well as in the foreign terms; that each issue of consular reports shall not exceed seven thousand copies: And provided further, That the Secretary of State be, and he is hereby, authorized to change the

name of the Bureau of Statistics to the Bureau of Foreign Commerce, and that the foregoing provision shall apply with the same force and effect to the Bureau of Foreign Commerce as to the Bureau of Statistics.

You will perceive that the Secretary of State is authorized by the foregoing to change the name of the Bureau of Statistics of this Department to the Bureau of Foreign Commerce, and that the provision for the maintenance of the Bureau of Statistics is made to apply with the same force and effect to the Bureau of Foreign Commerce. As the appropriation becomes available on the 1st of July, I respectfully ask authority from you to carry the legislation specified into effect. The reasons for making the change, as stated to Congress and approved by that body, are:

(1) The confusion arising from the fact that there are three bureaus of statistics in the Executive Departments, viz:

Bureau of Statistics, Department of State;
Bureau of Statistics, Treasury Department;
Division of Statistics, Department of Agriculture.

Shortly after taking charge of this Bureau, I became impressed with the fact that the general public was unable to discriminate between the various bureaus of the same name, and that unnecessary labor and delay resulted.

(2) The name Bureau of Statistics does not properly denote the functions of this Bureau, which is exclusively commercial in its character, its work being that of collecting, compiling, and distributing the commercial reports of our diplomatic and consular officers. There is a wide range of statistics with which the Bureau has nothing to do, and its designation as a Bureau of Statistics is, therefore, misleading. The use of the words Bureau of Foreign Commerce, on the other hand, besides correctly indicating the character of the work, is likely, in my judgment, to impress upon the public mind the importance of the commercial functions of this Department.

In view of these considerations, I submit the draft of an order for your signature.

Respectfully yours,

FREDERIC EMORY,
Chief, Bureau of Statistics.

CONTENTS.

Page.
I.—Trade with Nicaragua 343
II.—Brick and Wood in Nicaragua — *O'Hara* 345
III.—Rubber Tax in Nicaragua 348
IV.—The Bay of Jiquilisco, Salvador — *Baker* 349
V.—Railroad from Chihuahua to the Pacific — *Burke* 352
VI.—Mines in Nicaragua — *Wiesike* 354
VII.—Currency Legislation in the Dominican Republic — *Grimke* 355
VIII.—American Enterprise in British Honduras 356
IX.—Belize-New York-Hamburg Steamship Service — *Morlan* 356
X.—Railroad in British Honduras 357
XI.—Commerce and Navigation of Martinique — *Tucker* 358
XII.—New Bank in Caracas — *Plumacher* 359
XIII.—American Iron and Steel in Great Britain — *Parker* 361
XIV.—Exports from Manchester to the United States — *Grinnell* 365
XV.—Irish Consumption of Maize — *Ashby* 367
XVI.—Prospects for United States Machinery in Belfast. 369
XVII.—Wages Paid by Belfast Gas Works — *Taney* 371
XVIII.—American Horses in Belfast 372
XIX.—Brussels as a Trade Center 375
XX.—An American Store in Brussels — *Morris* 378
XXI.—American Products in Belgium 379
XXII.—Lumber in Germany — *Moore* 380
XXIII.—Foreign Lumber in Germany — *Stephan* 381
XXIV.—Examination of Horses at Bremen — *Keenan* 383
XXV.—New Dry Dock at Hamburg 385
XXVI.—United States Caviar in Europe — *Robertson* 387
XXVII.—Dried Beer Grains as Cattle Food 389
XXVIII.—A Scientific Test of Coke-Burning Stoves — *Mason* 392
XXIX.—Germany and the New Tariff — *Monaghan* 394
XXX.—German Labor Legislation — *Stern* 395
XXXI.—Trade Methods in Russia — *Karel* 397
XXXII.—Swiss Market for United States Products — *Germain* 398
XXXIII.—Exports from Palermo to the United States — *Seymour* 404
XXXIV.—Telegraph System of Greece — *Horton* 404
XXXV.—Sardines in Galicia — *Harmony* 405
Billhardt 407
XXXVI.—Wire-Rope Industry of Russia — *Bornholdt* 407
Karel 408

Page.
XXXVII.—PHYSICAL-TECHNICAL INSTITUTE OF GERMANY........*Mason* 412
XXXVIII.—SILK TRADE OF TURIN........*Mantius* 418
XXXIX.—AGRICULTURAL IMPLEMENTS IN BULGARIA........*Stephan* 419
XL.—NEW RAILROAD IN SIERRA LEONE........*Pooley* 420
XLI.—NEW CONSUMPTION TAX IN MADAGASCAR........*Wetter* 421
XLII.—ABOLITION OF SLAVERY IN ZANZIBAR........*Mohun* 422
XLIII.—BOUNTY ON JAPANESE SILK EXPORTS........*McIvor* 424
XLIV.—MANUFACTURE OF LIMOGES CHINA........*Griffin* 426
XLV.—AMERICAN COTTON-SEED OIL IN MARSEILLES........*Pressly* 430
XLVI.—STAVES AT NICE........*Hall* 432
XLVII.—AGRICULTURAL PRODUCTS OF MALAGA........*Bartleman* 436
XLVIII.—FOREIGN COMMERCE OF ITALY........*Jones* 442
XLIX.—FOREIGN CLOCKS AND WATCHES IN RUSSIA........*Chambers* 444
L.—RESULTS OF LABOR INSURANCE IN GERMANY........ } *Monaghan* 445
LI.—TECHNICAL EDUCATION IN GERMANY........ 447
LII.—TEXTILE HIGH SCHOOL IN BRUNN........ 449
LIII.—GERMANY'S GRAIN IMPORTS........ 450
LIV.—PORCELAIN MAKING IN GERMANY........ 452
LV.—AMERICAN SHEEP IN AUSTRALIA........*Bell* 453
LVI.—NOTES (Improvement of the Peiho River—Railway Opened in China—A Russian Canal—Electric Tramways in County Dublin—Raw Silk in Syria—American Pine in Italy—Construction of Railway and Dock in Hull—Walnut Crop in Southern Italy—Russia's Tariff Relations with Germany—Foreign Commercial Agents in Sweden—German Exports to Holland—Iron Felt, a New Invention—Movement of Agricultural Products in Switzerland—The Beer Trade of Switzerland—United States Horses in Switzerland—Consular Reports Transmitted to Other Departments—Removal of Duty on Aniline Oil in the Netherlands—No Change in Tariff Laws of Jamaica)........ 455
LVII.—FOREIGN REPORTS AND PUBLICATIONS—(French Commerce during the First Four Months of 1897—German Commerce for the First Three Months of 1897—Lodgings for Workmen in Leipsic—Trusts in Germany—The Economic Situation of the Transvaal in 1896—Commerce of Natal in 1896—Condition of the South African Gold Mines in 1894—Commerce of the Argentine Republic during 1896—Notes from the Argentine Republic—Commerce of Colombia in 1895—The Railway Situation in Brazil—Railway Concession in Bolivia—Minerals in China—An American Contractor in China—American Enterprise in Siam—The New Tariff of Japan—Commerce of North Borneo in 1896)........ 466

REPORTS BY COUNTRIES.

AUSTRALIA: Page.
  American sheep in 453
BELGIUM:
  American products in 379
  An American store in Brussels 378
  Brussels as a trade center 375
BRITISH HONDURAS:
  American enterprise in 356
  Belize-New York-Hamburg steamship service 356
  Railroad in 357
BULGARIA:
  Agricultural implements in 419
CHINA:
  Improvement of the Peiho River 455
  Railway opened in 455
DOMINICAN REPUBLIC:
  Currency legislation in 355
ENGLAND:
  Construction of railway and dock in Hull 458
  Exports from Manchester to the United States 365
EUROPE:
  United States caviar in 387
FRANCE:
  American cotton-seed oil in Marseilles 430
  Manufacture of Limoges china 426
  Staves at Nice 432
GERMANY:
  A scientific test of coke-burning stoves in 392
  And the new United States tariff 394
  Dried beer grains as cattle food in 389
  Examination of horses at Bremen 383
  Exports to Holland 461
  Foreign lumber in 381
  Grain imports of 450
  Iron felt in 462
  Labor legislation in 395
  Lumber in 380
  New dry dock at Hamburg 385
  Physical-technical institute of 412
  Porcelain making in 452
  Results of labor insurance in 445
  Russia's tariff relations with 460
  Technical education in 447
  Textile high school in Brunn 449
GREAT BRITAIN:
  American iron and steel in 361

GREECE: Page.
  Telegraph system of 404
IRELAND:
  American horses in Belfast 372
  Consumption of maize in 367
  Electric tramways in 457
  Prospects for United States machinery in Belfast 369
  Wages paid by Belfast Gas Works 371
ITALY:
  American pine in 458
  Exports from Palermo to the United States 404
  Foreign commerce of 442
  Silk trade of Turin 418
  Walnut crop in 459
JAMAICA:
  No change in tariff laws of 465
JAPAN:
  Bounty on Japanese silk exports 424
MADAGASCAR:
  New consumption tax in 421
MARTINIQUE:
  Commerce and navigation of 358
MEXICO:
  Railroad from Chihuahua to the Pacific 352
NETHERLANDS:
  Removal of duty on aniline oil in 464
NICARAGUA:
  Brick and wood in 345
  Mines in 354
  Rubber tax in 348
  Trade with 343
RUSSIA:
  Canal in 456
  Foreign clocks and watches in 444
  Tariff relations with Germany 460
  Trade methods in 397
  Wire-rope industry of 407
SALVADOR:
  The bay of Jiquilisco 349
SIERRA LEONE:
  New railroad in 420
SPAIN:
  Agricultural products of Malaga 436
  Sardines in Galicia 405
SWEDEN:
  Foreign commercial agents in 460
SWITZERLAND:
  Beer trade of 463
  Market for United States products in 398
  Movement of agricultural products in 462
  United States horses in 464
SYRIA:
  Raw silk in 457

VENEZUELA: Page.
New bank in Caracas........ 359
ZANZIBAR:
Abolition of slavery in........ 422

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1897, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.4 cents in April, 1897, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz, (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*.	Gold and silver..	Peso	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†	Gold	Crown	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver..	Franc	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil	Gold	Milreis	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	do	Dollar	1.00	
Chile	Gold	Peso	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Cuba	Gold and silver..	do	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Egypt	do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland	do	Mark	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany	Gold	Mark	.23,8	Gold—5, 10, and 20 marks.
Great Britain	do	Pound sterling...	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece	Gold and silver..	Drachma	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	do	Gourde	.96,5	Silver—gourde.
Italy	do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar	1.00	
Netherlands‡	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar	1.01,4	Gold—$2 ($2.02,7).
Portugal	do	Milreis	1.08	Gold—1, 2, 5, and 10 milreis.
Spain	Gold and silver..	Peseta	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela	Gold and silver..	Bolivar	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

---

* In 1874 and 1875, the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ended July 1, 1892. The next quarter (October 1) inaugurated the gold standard (see note under table of "fluctuating currencies").

‡ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–1890.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*.	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1890; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	...	...
China	Silver	Haikwan tael	1.61	1.61	...	...	...	...
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	...	...	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	...	...
	Silver		...	...	...	...	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.38,5	.40,2	...	...
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on Janury 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*.	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	...	...	...	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.94,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	...	...	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

---

* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1894.				1895.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.51,6	$0.46,5	$0.45,7	$0.46,4	$0.45,5	$0.44,1	$0.48,6	$0.48,6
Central America.	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
China*	Shanghai tael	.76,2	.68,6	.67,6	.68,5	.67,3	.65,2	.71,8	.71,8
	Haikwan tael	.84,9	.76,5	.75,3	.76,3	.74,9	.75,6	.80	.80
	Tientsin tael	....	....	....	.72,7	.71,4	.69,2	.76,1	.76,2
	Chefoo tael	....	....	....	.71,7	.70,4	.68,3	.75,1	.75.2
Colombia	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Ecuador	do	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
India	Silver rupee	.24,5	.22,1	.21,7	.22	.21,6	.21	.23,1	.23,1
Japan†	Silver yen	.55,6	.50,1	.49,3	.50	.49,1	.47,6	.52,4	.52,4
Mexico	Silver dollar	.56	.50,5	.49,7	.50,4	.49,5	.47,9	.52,8	.52,8
Persia	Silver kran	....	....	....	....	....	....	.08,9	.09
Peru	Silver sol	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Russia‡	Silver ruble	.41,3	.37,2	.36,6	.37,1	.36,4	.35,3	.38,9	.38,9
Tripoli	Silver mahbub	.46,5	.41,9	.41,3	.41,8	.41,1	.39,8	.43,8	.43,8

Countries.	Monetary unit.	1896.				1897.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano.	$0.49,1	$0.49,3	$0.49,7	$0.49	$0.47,4	$0.46,8
Central America	Silver peso	.49,1	.49,3	.49,7	.49	.47,4	.46,5
China*	Amoy tael	....	....	....	.79,3	.76,7	.75,7
	Canton tael	....	....	....	.79	.76,5	.75,5
	Chefoo tael	.75,9	.76,3	.76,9	.75,8	.73,3	.72,4
	Chinkiang tael	....	....	....	.77,4	.74,9	.73,9
	Fuchau tael	....	....	....	.73,3	.70,9	.70
	Haikwan tael	.80,8	.81,2	.81,9	.80,6	.78	.77
	Hankow tael	....	....	....	.74,2	.71,7	.70,8
	Ningpo tael	....	....	....	.76,2	.73,7	.72,8
	Niuchwang tael.	....	....	....	.74,3	.71,9	.71
	Shanghai tael	.72,5	.72,9	.73,5	.72,4	.70	.69,1
	Swatow tael	....	....	....	.73,2	.70,8	.69,9
	Takao tael	....	....	....	.79,8	.77,2	.76,2
	Tientsin tael	.76,9	.77,3	.78	.76,8	.74,3	.73.4
Colombia	Silver peso	.49,1	.49,3	.49,7	.49	.47,4	.45,8
Ecuador	do	.49,1	.49,3	.49,7	.49	.47,4	.46,8
India	Silver rupee	.23,3	.23,4	.23,6	.23,3	.22,5	.22,2
Japan†	Silver yen	.52,9	.53,2	.53,2	.52,8	.51,1	.50,5
Mexico	Silver dollar	.53,3	.53,6	.54	.53,2	.51,5	.50,8
Persia	Silver kran	.09	.09,1	.09,2	.09	.08,7	.08,6
Peru	Silver sol	.49,1	.49,3	.49,7	.49	.47,4	.46,8
Russia‡	Silver ruble	.39,3	.39,5	.39,8	.39,2	.37,9	.37,4
Tripoli	Silver mahbub	.44,3	.44,5	.44,9	.44,2	....	....

*China (silver). The haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or haikwan, tael, in which all duties have to be paid, and the other the market tael." The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

†Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	$1.333\frac{1}{3}$ ($1\frac{1}{3}$) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅜ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1¾ acres.
Marc	Bolivia	0.507 pound.
Maund	India	82 2/7 pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castile	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¾ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.418 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.
Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LIV. JULY, 1897. No. 202.

TRADE WITH NICARAGUA.*

The trade of San Juan del Norte is not important, all imports consigned to local merchants during the year ended June 30, 1896, amounting in value to but $139,749.90. The imports from Germany amounted to $22,356.10. Small as the trade is, however, the Germans think it worth while to advertise here; they are liberal advertisers. In my report of the 24th instant, mention is made of a Hamburg house from which one of the merchants here recently received two bound sample books, one containing two hundred and nineteen envelopes and the other sixty-eight envelopes and one hundred and twenty-five sheets of writing paper of various shades, sizes, etc.

The Germans send out large quantities of printed circulars, catalogues, and price lists; but they also send out free samples of their goods. They believe that a hat or a shirt is a better advertiser than a catalogue, cut, or picture of either.

Within the last six months, one house in San Juan del Norte has received samples (all free and freight charges prepaid) from Hamburg, as follows:

(1) Two lots of shirts, 1½ dozen in each lot, These shirts were sold by the San Juan del Norte house at from 68 cents to $1.36.

(2) Three lots of cups, saucers, and plates, each lot worth about $13.

(3) One lot of combs, worth about $10.

---

* All values in this report are given in United States currency. The peso is worth but 45.45 cents in United States currency in San Juan del Norte. Its value, according to the Director of the United States Mint, is 47.4 cents.

(4) Twenty-five fans, which were retailed at from 4.55 to 13.6 cents each.

(5) Six fans, retailed at $2.72 each.

(6) Two dozen straw hats, retailed at from 22.7 to 79½ cents each.

(7) Felt hats to the value of about $25.

(8) Corsets to the value of about $20.

(9) Suspenders, worth about $15.

(10) Collars and cuffs, worth about $7.

(11) Toys, worth about $15.

(12) Hosiery, worth about $15.

(13) Cutlery, worth about $15.

(14) Three lots of shoes, 6 pairs in each lot, retailed at from 79½ cents to $1.81 per pair.

(15) One lot of neckties (11 dozen), retailed at from 6.8 cents to $1.59 each.

Valuable samples of various other articles were received from Hamburg by the same house during the same period. Two other houses in San Juan del Norte also received Hamburg samples equally valuable.

All of the foregoing samples, with the exception of the envelopes and writing paper, came unmarked and unmutilated, every article being salable at full price. I do not say that it pays to advertise in this manner, but the matter is worth the attention of our own tradesmen.

The merchants here say that, with the exception of Colgate & Co. (manufacturers of soaps, perfumeries, etc.), Stafford & Co. (manufacturers of inks, etc.), and a few manufacturers of beers, the United States manufacturers do not send samples here that may be sold.

The business circulars, etc., sent here from Germany are much lighter in weight than those received from the United States. The same is true of the stationery used. The use of similar paper by our people would effect the saving of considerable postage.

I have given attention to the question of advertising in these countries. Printed advertisements in any form or in any respectable journal will pay here, as elsewhere, but they must be printed in Spanish. Many so-called export sheets have absolutely no circulation in this part of the world. Advertisements placed in the reputable journals having a bona fide circulation in Spanish America will bring good results.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *February 26, 1897.*

BRICK AND WOOD IN NICARAGUA.

Inquiries have been made regarding the sale of brick in this consular district.

All the buildings in San Juan del Norte are of wood. There is neither a cellar nor a chimney in the town. With the exception of ten or twelve buildings which rest on brick, all the houses are built on wooden blocks or piles. The house I occupy (there is but one better building in the place) rests on brick piers. By actual count, there are 512 bricks under the entire building.

Stone is not found in the immediate vicinity of San Juan del Norte, nor is there any brick clay.

The absence of stone and brick buildings is not due to fear of earthquakes. There have been but two earthquake shocks felt in the town during the last two years—one in March, 1895, and one on the morning of January 8, 1897. The inhabitants say that these shocks were as severe as any ever experienced in the place. Neither, however, would have loosened brick or stone work.

Lumber is expensive and short lived (the climate and wood ants combining to play havoc with it), but it is generally believed to be cheaper than brick. No lumber is cut on the San Juan River. All the lumber used in San Juan del Norte comes from the United States. It is generally a poor grade of white pine. It sells for from $70 to $90 in Nicaraguan currency per 1,000 feet, equivalent, according to local exchange, to $31.81 and $40.90 in United States currency.

The annual consumption of lumber does not now exceed 100,000 feet.

Vessels drawing more than 4 or 4½ feet of water can not enter the harbor, and the lighterage charges alone on brick and lumber are as follows: Brick, $13.12½ per 1,000 in United States currency; lumber, $13.12½ per 1,000 feet.

On October 12, 1896, I sent specimens of the sands on this coast to the American Sand Brick Company, of New York, inquiring whether such sands were suitable for sand brick. Under date of November 13, the company replied:

> * * * The sand you sent will make a fine brick and of many colors. A brick machine or patent press with both mixers required will cost $2,500, free on the dock in New York City. We will furnish parties purchasing the chemicals by the barrel, shipped in any quantities desired.
>
> We furnish these chemicals at $1 per barrel of 42 gallons, which will make 1,000 bricks. This price is free on the dock in New York City.
>
> Estimate of labor (unskilled), seven men for one machine or eleven men for two machines. The capacity of each machine is 5,000 bricks per day of ten working hours.

Mr. M. J. Clancy, our consular agent at Bluefields, reports as follows:

But very little brick is used in Bluefields. The buildings are all of wood. Ordinary dwellings have wood foundations; other buildings rest on pillars made of stone and cement. Stone is plentiful in this section. The cement is imported. The brick used here is imported from New Orleans, where the cost is about $8* (United States currency) per 1,000.

Steamship freight rates on brick from New Orleans and Mobile to Bluefields are as follows, in United States currency: Per barrel, 50 cents; per hogshead, $4; per 1,000 (loose, at owner's risk), $8.

There is no duty on brick. Considering lighterage, exchange, and a fair profit, it is claimed that brick imported from the United States could not be sold here for less than $50 in Nicaraguan currency, or $22.72 in United States currency, per 1,000.

Mr. F. Pouyatt recently acquired certain land at Cookra Point, 3 miles west of here by water, with the intention of making brick and lime. I interviewed him this morning. He says that the clay found near Cookra Point is excellent for brick making, and that he made his experiments in January last. I asked him how many bricks he had burned in his kiln. He replied, "two." He says that he will commence making brick whenever he gets sufficient orders in advance to warrant him going ahead, the price to be not less than $45 in Nicaraguan currency, or $20.55 in United States currency, per 1,000. He claims to have made and sold 200 barrels of lime on his place, but is uncertain when he will burn any more.

Dressed lumber from the United States retails here at $70, and undressed at $60, in Nicaraguan currency, or $31.81 and $27.27 in United States currency, per 1,000 feet. First-class lumber is not sent here. Pitch-pine lumber is manufactured at Wawa, in this district. The owners of the mill (Hoadley, Ingalls & Co., of Port Limon, Costa Rica) have a concession from the Government of Nicaragua. The original concession was obtained from the Mosquito Government, and carried with it the right to cut all pine timber on the Wawa River and its tributaries.

The Wawa lumber is not as good as that from the United States. It sells at the mill for the following prices per 1,000 feet: Dressed, $55 in Nicaraguan currency, or $25 in United States currency; undressed, $45 in Nicaraguan currency, or $20.45 in United States currency. Freight from Wawa to Bluefields costs $10 in Nicaraguan currency, or $4.54 in Uuited States currency, per 1,000 feet.

Steamship freight rates on lumber from New Orleans and Mobile to Bluefields are $9 (United States currency) per 1,000 feet. It costs less when shipped in schooners. Lighterage charges at Bluefields are $3 in Nicaraguan currency, or $1.36 in United States currency, per 1,000 feet.

The product of the Wawa mill—about 1,000,000 feet per annum—is sold principally in Bluefields and Port Limon. Mr. Seat estimates that 650,000 lineal feet of United States lumber were imported into Bluefields between January 1 and September 1, 1896—principally from Mobile.

It may be seen from the foregoing that there is no market on this coast for United States brick.

The prices of lumber given may enable experts to determine whether there is an opening for the manufacture and sale of sand bricks.

---

* All reductions of local currency to United States currency are made according to the local rate of exchange rather than the value appearing in the estimate of the Director of the United States Mint.

In case of the construction of the Nicaragua Canal, there would probably be quite a demand in San Juan del Norte for brick and most other building materials.

Figures are given in my report of October 12, 1896 (see CONSULAR REPORTS No. 196, January, 1897, p. 139), showing the quantity of mahogany cut north of Bluefields by the Emery Company, of Chelsea, Mass. The company has a monopoly, no mahogany being cut on this coast by any other company or person. There is no mahogany in the vicinity of San Juan del Norte—at least it is so stated by persons claiming to know—nor have I heard of any other valuable woods in this immediate section.

Mention is made in one of my reports (published in the September, 1896, number of CONSULAR REPORTS) of certain woods found to the north and northwest of Bluefields. Mr. William P. Collins is said to have more accurate knowledge than anybody else respecting the timbers of Nicaragua. He is a civil engineer and has explored the greater part of the country. I wrote to him in December, 1895, asking for information in regard to the extent and location of valuable timber lands in Nicaragua. The following is an extract from his letter of January 23, 1896:

> On the whole Atlantic coast valuable timber is found at the head of navigation of the larger rivers. Mahogany, cedar, almendro, and other valuable woods are found in abundance along the head waters of the rivers Mico, Siquia, and Rama. To the west of this region dyewoods abound, but at present there are no facilities for marketing them to advantage.

In December, 1895, three young men, representing certain Pennsylvania capitalists, passed through San Juan del Norte on their way to the interior of Nicaragua. They took a canoe at San Carlos and proceeded along the shores of Lake Nicaragua, exploring all inlet streams in search of valuable woods. From Nicaragua, they went to Guatemala, and from thence, two of them proceeded to Colombia.

I wrote to one of the party a few months ago, requesting him to give me a report concerning the timbers found in Nicaragua, Guatemala, and Colombia. He stated, in reply, that one of his party was then in the United States for the purpose of submitting their report to their principals, and that until the report had been acted upon he could not comply with my request. He promised, however, to give me the report should his people conclude not to engage in lumbering in these countries.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *February 27, 1897.*

RUBBER TAX IN NICARAGUA.

In my report of November 11, I reported that all rubber exported from Nicaragua during the year 1897 would be subject to an export tax of 10 cents in Nicaraguan currency (4.9 cents in United States currency) per libra (1.043 pounds). This tax, according to the table of values issued by the Director of the Mint January 1, 1897, is equivalent to 4.74 cents in United States currency.

Notice was served yesterday upon the four exporters doing business in San Juan del Norte that they must pay such tax on all rubber shipped from San Juan del Norte since January 1, 1897, excepting rubber upon which the tax had been paid at the Castillo custom-house. The notice was signed by the governor-intendant and is in pursuance of instructions issued by the Minister of the Hacienda, February 24.

Much of the rubber shipped from San Juan del Norte is produced in Costa Rica. It is shipped to San Juan del Norte via the San Carlos River, which empties into the San Juan River below Castillo.

The local authorities say (1) that the collection of the tax at San Juan del Norte is not in violation of the Managua treaty, as the rubber is not produced within the limits of the free-port town; (2) that most of the rubber which comes from Costa Rica is gathered contrary to the law of that country prohibiting the tapping or bleeding of rubber trees on public lands, and that Nicaragua might properly declare it to be a criminal offense to bring such rubber into Nicaraguan territory; (3) that no one would dispute the right of Nicaragua to station officers at or below the mouth of the San Carlos for the purpose of collecting the tax on rubber coming from Costa Rica, or of compelling the boats to ascend the river as far as the Castillo custom-house, and that it is less expensive and far more reasonable to collect the tax at San Juan del Norte than to pursue either of the two courses mentioned.

The four exporters are C. F. Bergmann, H. F. Bingham, E. L. D'Souza & Bro., and F. A. Pellas, doing business under the name of the Nicaragua Mail Steam Navigation and Trading Company. Mr. Bergmann is a German subject, Mr. Bingham and the D'Souza brothers are British subjects, and Mr. Pellas is an Italian. Mr. Bergmann is the German consul and Mr. Bingham the British consul at the port.

Mr. Bingham leaves to-day for a conference with the British minister, who is temporarily stationed at San José, Costa Rica. This conference was probably arranged for other objects than the discussion of the rubber-tax question, but it is rumored that Mr. Bingham has encouraged Mr. Bergmann and Messrs. D'Souza to believe that one of the results of the conference will be to "knock out" the tax.

All the rubber handled by Mr. Pellas is said to come from the interior of Nicaragua, which makes him indifferent as to the outcome of any protest from either the British minister or the British Government.

During the quarter ended March 31, 1897, 66,659 pounds of rubber were shipped from San Juan del Norte, of which Mr. Pellas shipped 34,431 pounds.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *April 1, 1897.*

THE BAY OF JIQUILISCO, SALVADOR.

I inclose a copy of a report made to me by Mr. John F. Baker, secretary of this legation, upon the surveys of the Bay of Jiquilisco, Salvador, and the new port of El Triunfo.

The Department may desire to use a part or all of this article in its CONSULAR REPORTS, in view of the fact that the U. S. S. *Bennington* and the U. S. S. *Marion* have recently been engaged in a survey of the above-mentioned bay.

The inclosed report gives some historical points concerning past surveys of the Bay of Jiquilisco and some information about the company, composed largely of American capitalists, which controls the new port. The future possibilities of the country tributary to El Triunfo are briefly outlined, and the present exports and imports are given.

LEWIS BAKER,
Minister.

MANAGUA, *February 22, 1897.*

SURVEYS OF THE BAY OF JIQUILISCO, SALVADOR.

In view of the fact that the United States naval vessels *Bennington* and *Marion* have been engaged in the survey of the Bay of Jiquilisco, Salvador, I submit the following observations concerning past surveys of the bay, also some information about the new port of El Triunfo and the rich country tributary to it. For certain facts contained in the following report I am indebted to Mr. W. E. Caldwell, British consul at San Salvador, and Mr. H. H. Burrell, a director in the El Triunfo Company, which I gathered from them during my recent visit in Salvador.

The earliest authentic information in regard to soundings of the bar and bay is derived from a map of the Bay of El Triunfo made by the engineer Don Pedro Garcia Aqiurre, in 1798, and it is remarkable that the depths assigned on his chart are verified by hydrographic surveys of recent dates.

In January, 1847, the French brig of war *Genio*, commanded by the Count of Gueydon, anchored in the roadstead of Acajutla and made a survey of the bar and harbor at the request of the President of Salvador, who desired to know whether it was possible to open the port of El Triunfo to commerce. He thus writes in his letter to the Salvadorian minister, dated La Union, February 4, 1847:

"After a very careful survey of the places, I have become convinced that it is possible and even easy to pass the bar with ships of large tonnage, because at low tide there is never less than 4 meters of water."

He then proceeds to state that the ports of Matamoros, Tampico, Tuxpan, Tabasco, Laguna del Carmen, in the Gulf of Mexico, of Bayonne, in France, and Bilbao, in Spain, have all bars with less water than the bar of Espiritu Santo (that is, the port of El Triunfo). One observation which he makes time has proven to be correct. It is this:

"The banks which are found on this part of the coast are not shifting, as is said, and I am convinced that its (the bar's) position has remained the same for a great number of years."

Other surveys than that of the French commander, both official and private, have been made since that time, all of which verify that officer's soundings. This corroboration of depths, after an interval of nearly fifty years, is almost a guaranty that the bar has not changed its conditions for half a century, a very favorable fact, since it appears not to be subject to change prejudicial to navigation.

In 1880 and in 1889, hydrographic surveys were made of the western coast of Central America from the River Ocos to San Juan del Sur by the officers of the U. S. S. *Tuscarora*, commanded by J. U. Philip, U. S. N., and by those of the U. S. S. *Ranger*, C. E. Clark, commanding. The chart which was the result of these surveys, corrected down to March 24, 1893, shows 3½ fathoms at low water, and was issued by the Hydrographic Office, Navy Department, Washington, on that date. Another survey was made in 1888 by Juan S. Peña, a noted pilot in Central American waters. This was followed by one ordered by the El Triunfo Company, Limited, and finished in September, 1894. The last was by Don Thomas Stich Bonelli, official engineer of the Salvadorian Government, who received instructions to make a survey of the bar and of the entrance to the port of El Triunfo, which was duly performed in November, 1895. All these later soundings, whether expressed in meters, fathoms, or varas, amounted practically to the same as the United States survey. The soundings made by the Salvadorian Government engineer, in 1895, showed the depth on the bar at low water to be 3½ fathoms, the mean tides being 8 feet 9 inches.

The Bay of Jiquilisco, in which lies the port of El Triunfo, varies from 2 to 6 miles in width, and is from 25 to 26 miles long. Its position has long been recognized as favorable to the development of a rich and extensive region, provided that a port was opened to commerce at some suitable point on its shore. Several attempts were made in past years to open such a port, and twice a port of entry was declared by former governments, but private interests in adjacent ports brought so much pressure to bear antagonistic to this creation of a rival, that it was not until 1893 that El Triunfo was declared a port of entry by the Ezeta Government, and opened to commrce in 1894 by the enterprise of the El Triunfo Company, Limited, under the auspices of the administration of Gen. Rafael A. Gutierez.

This company was formed by American and Salvadorian capitalists for the purpose of establishing steam navigation in the new port and developing the commercial and agricultural industries by facilitating the means of exporting products of that region. It styled itself La Compañia de El Triunfo, and on October 15, 1894, the President of Salvador approved a contract entered into with the Supreme

Government, by which the company agreed to erect a pier and build a custom-house at its own expense. On November 7, 1894, the Government granted to this company the exclusive right of steam navigation in the whole Bay of Jiquilisco. A town site was marked out by the Government, lots were gratuitously granted to settlers, and El Triunfo soon had a population of several hundred inhabitants. Work was vigorously carried on, and in April, 1895, the American steamer *Celia* arrived at the port from San Francisco with a cargo of 500 tons, being the first foreign steamer to enter the harbor and land its cargo on the temporary pier. Since that time, a new pier has been built by the company, steam tugs and launches adequate to the service have been provided, and the new port already gives ample proof of its future importance.

The custom-house, post-office, and military headquarters were duly organized, and communication by telegraph was established with the capital. During the last eight months of 1895, the importations and exportations yielded to the custom-house at El Triunfo the amount of $38,537.37, there having been exported 12,920 quintals of coffee alone during that time. The following figures will show how rapidly the business in this new port is increasing:

During the single month of April, 1896, the receipts at the custom-house reached $30,000, while for the same time the exportation of coffee amounted to 14,997 quintals. The total exportation of that article for 1896 has been double that of the previous season, and it is estimated that the exportation of the 1897 crop through the port of El Triunfo will reach 75,000 quintals.

The opening of this port will give a great boom to a certain region of Salvador and promote a development of agricultural and other industries that has been impossible on account of the lack of exportation facilities. Owing to that need, a vast district, capable of producing sugar cane, cacao, cotton, coffee, tobacco, fruits, and cereals, developed but little beyond local requirements. It is also a fact that extensive coal deposits, reaching into Honduras, exist in the mountains north of Port El Triunfo, and when the Rio Lempa, navigable almost to its source, is navigated by steam river boats—a matter of a few years only—an entirely new industry will be brought to the front, the limit of which it is impossible to predict.

In 1895, permission was given by the Government of Salvador to the Governments of the United States and Great Britain to make a survey of the Bay of Jiquilisco, including the bar and the entrance to the port of El Triunfo. This invitation was duly published in the Diario Oficial, the Government organ, and a cablegram was received by Mr. H. H. Burrell, a director of La Compañia de El Triunfo, resident in San Salvador, from the Secretary of State at Washington, D. C., notifying him that the United States Government had ordered the survey to be made, and that a vessel would be sent to the Bay of Jiquilisco for the purpose. Accordingly, the *Marion* and *Bennington* entered upon their work in that bay during the latter part of December.

The following vessels have entered the port since its opening, drawing the depth of water indicated: Steam schooner *Celia*, American, 14 feet 6 inches, of San Francisco, owned by the El Triunfo Company; schooner *Vine*, American, 16 feet, of San Francisco; *Broclay Castle*, English ship, 14 feet, of Glasgow; *Fulda*, German, 13 feet, of Hamburg Steamship Company; steamer *Transit*, Norwegian, 14 feet 6 inches, Seattle and Central American Company; schooner *Mary E. Russ*, American, 14 feet, of San Francisco; U. S. S. *Bennington*, 17 feet.

The ship *Broclay Castle* was loaded with mora wood to a draft of 17 feet, and was wrecked on account of the cable breaking while being towed to sea just on the outer edge of the bar. She was abandoned by her captain, who left her one and a half hours after drifting on to the west spit and back into the channel, passing nearly into the bay again, where she was grounded by the easterly current on the east spit, where she now lies a total wreck. When the cable broke, the company's steamer *Celia* was disabled by fouling her propeller with said cable, which prevented assistance from her until the *Broclay Castle's* captain had signaled to be taken off his ship, which was done by Captain Sandberg, of the steamer *Celia*, and the ship was left without anchor out or men on board. All the other ships have entered and departed well loaded and without any mishap. The *Fulda* took 1,150 tons of mora wood, and was loaded to 16 feet 6 inches. The steamer *Transit* is now making regular trips into El Triunfo, and arrived January 30 with 285 tons of cargo from the United States and way ports. The average imports from the United States and Europe to this port since July last have been about 400 tons per month. The exports for the same time have been small, because of the undeveloped condition of the surrounding country.

The country near the port abounds in mahogany and Spanish cedar, as well as in mora and other dyewoods, all of which are controlled by foreign capital, principally American.

The *Bennington* arrived off the bar December 25 at noon; the *Marion*, on December 26 in the afternoon. On December 27 at 8 a. m., the *Bennington* passed inside to commence the work of survey, which has been pushed with wonderful rapidity since that time. It is expected that she will be there until the last of February or the 1st of March, 1897.

JOHN F. BAKER,
Secretary of Legation.

MANAGUA, *February 6, 1897.*

RAILROAD FROM CHIHUAHUA TO THE PACIFIC.

The Mexican Government has officially promulgated a concession for a railroad from Chihuahua, Mexico, to the Pacific coast. Messrs. Alfred A. Spendlove and E. C. Creel are empowered to construct a railway to start from the city of Chihuahua, or from a point on the Mexican Central Railroad south of Chihuahua, and to extend in a westerly direction to a point on the Pacific coast in the State of Sonora.

Within one year from April 13, 1897, the concessionaries must submit to the Department of Communications the plans for the first section of 200 kilometers (124.3 miles). The subsequent plans shall be presented in sections of at least 25 kilometers (15½ miles) and in such manner that the construction may not be retarded for lack of plans.

Construction shall begin as soon as the Department of Communications has approved the plans, and within two years 200 kilometers must have been completed. Subsequent construction shall proceed at the rate of 100 kilometers annually, and the entire road, with its telegraph line, must be completed within seven years from April 13, 1897. Construction work may begin at either end of the line. A telegraph line shall be built for the exclusive service of the road. The company, with the consent of the Department of Communications, may build a terminal of the road on the Pacific with piers, wharves, and warehouses for the handling of merchandise, and may charge for their use by the public a moderate schedule of rates, to be submitted for approval to the Department of Communications. The plans for the wharves and other structures shall also be submitted for the approval of the same department.

To aid the construction of the line, the Government agrees to pay to the company a subvention, subject to the following conditions:

(1) The subsidized length of the line shall be 600 kilometers (372.8 miles). The line shall be considered as divided into three sections of 200 kilometers (124.3 miles) each, and the subsidy shall be paid on the completion of each section.

(2) The first section shall be counted from the connection of the line with the Mexican Central Railroad.

(3) The second section shall be the continuation of the first.

(4) The third section shall either be the continuation of the second or shall be the section starting from a point on the Pacific coast, in the State of Sonora, and extending in an easterly direction.

(5) The first section shall receive a subsidy of $1,400,000, the second section of $1,800,000, and the third section of $1,400,000, all payable in bonds of the 5 per cent interior redeemable debt.

This subvention shall not be duplicated in case a double track is built, and shall not be paid when the railway parallels another line previously built or unites two points already enjoying railway communication.

The 5 per cent bonds shall be delivered to the company with the current coupon, provided the company pays the interest represented by such coupon. If the company is not willing to make such payment, the bonds shall be issued with the current coupon detached.

Mr. Alfred A. Spendlove is the general manager of, and a large stockholder in, the Chihuahua Mining Company, in this city; also a stockholder in the Santa Helena Mining Company, at Cusihuirachic, two of the best mining properties in Mexico. Mr. E. C. Creel is a local banker and the manager of the Banco Minero, of Chihuahua.

Since the above concession was announced, the Mexican Government has granted to Col. A. K. Owen a concession for a railroad from Presidio del Norte, on the Rio Grande, State of Chihuahua, west, via the city of Chihuahua, to a point on the Pacific coast in the State of Sinaloa. This last concession is without subsidy or Government aid. The mineral wealth of the State of Chihuahua, through which these railroads must pass, is great beyond calculation. Notwithstanding the impediments in the way of transportation and fuel, there are many mines in the Sierras that are to-day being worked with profit, and with the shortening of distance and the cheapening of transportation, there are many small enterprises that will become large and profitable mines.

The mining industry in Chihuahua is as yet in its infancy. The introduction of the railroad will open up a wonderful country and greatly increase the importance of Chihuahua and Sonora.

R. M. BURKE,
Consul.

CHIHUAHUA, *May 15, 1897.*

MINES IN NICARAGUA.

By a recent decree of President Zelaya, all materials necessary for mining in Nicaragua will be admitted free of duty. I inclose a complete list of the mines and their owners and managers, together with a statement of the location and value of the mines and the total value of the property. The list and figures were taken from the books of the Statistical Bureau of Nicaragua and are considered to be correct.

PAUL WIESIKE,
Consul.

MANAGUA, *May 10, 1897.*

Mines in Nicaragua.

Mines and owners.	Value of mines.	Total value of property.	Location and post-office address.
San Francisco Mining Syndicate	$750,965		San Luis, Department Léon.
Felber, Frederico	900		San José de Aniláli.
Calderón, Erasmo	30,000		Somato, Nueva Segovia.
Compañia Mineria San Juan	2,500	$8,500	Jiraro, Nueva Segovia.
Compañia Mineria Del Golfo	9,500	29,500	Do.
Ganero, Rodolfo	3,500	5,730	Do.
Randales, Ramón	15,000	24,300	Do.
Avendaño, Dolores	5,000	6,100	Granada.
Etienne & Wells	20,000	41,700	Do.
Edo. Feullebais & Cia	2,000	9,800	Do.
Gonzales, Augustin	3,000	7,418	Do.
Guerrero, Benicio	5,000	23,075	Do.
Chambers, J. C., depository of J. Rogers	50,000	55,710	Libertad.
Johns, Frank	6,000		Department Chontales.
Jiménez, Rosario	1,500	3,325	Do.
Jarguesson, H	8,000		Do.
Kauffmann, Frederico	3,500		Do.
Testamentaria de Miguel Lotz	18,000	31,140	Do.
Meynard, Emilio	25,000		Do.
Carhiarotti, Pietro	10,000	44,412	Do.
Vyver, F	9,600		Do.
Whitford, Manuél	1,000	5,527	Do.

CURRENCY LAW OF SANTO DOMINGO.

I transmit herewith a copy and translation of a new currency law of the Dominican Government, enacted on the 5th instant.

ARCHIBALD H. GRIMKE,
Consul.

SANTO DOMINGO, *May 13, 1897*.

DECREE.

1. The coinage of the alloyed silver money of the mint of the Republic is to be limited to a maximum sum of $1,500,000.

2. As it is the object of the Executive Power that the silver in circulation shall be always less than the amount necessary, and that a quantity of gold money shall be required to carry on trade, the coinage of $600,000 alone has been decided upon, and the remainder shall be coined only in the event of absolute necessity for payments of small amounts in the transactions of the Republic; the quantity which shows itself to be indispensable shall be coined gradually, and shall not surpass in any way the fixed sum of $1,500,000. The types of the national money shall be: One dollar, fifty cents, twenty cents, ten cents.

3. (*a*) The nickel money in circulation,
(*b*) The money in the type of francs of the Republic in circulation,
(*c*) The bronze money in circulation,
(*d*) The coined money to which the present decree refers.
(*e*) The notes of the Banco Nacional guarantied by the Government—
shall form what is denominated current money, the value of each Dominican franc being fixed at 20 cents current money.

4. The following gold money will be valued at the rate mentioned, and will be accepted in payment of private transactions and by the fiscal and municipal authorities as current money: The American gold piece of $20 at $40, and its fractional parts in proportion; the pound sterling at $9.50, and its fractional parts in proportion; the Spanish ounce at $30.50, and its fractional parts in proportion; the gold pieces of 20 francs at $7.50, and their fractional parts in proportion; the German gold piece of 20 marks at $9.25, and its fractional parts in proportion.

5. No silver money of foreign coinage is to be considered as current money, and its importation is hereby prohibited.

6. The payment of the fiscal and municipal duties must be made, in part or in whole, in the following specie—no other accepted: In silver money of the coinage of the Republic; in nickel money of the coinage of the Republic; in bronze money of the coinage of the Republic; in notes of the Banco Nacional of Santo Domingo, guarantied by the Government; and in gold money specified in the present decree.

7. For the payment of the fiscal and municipal duties (which must be made in gold or its equivalent at the official rate of exchange), the rate is to be invariably fixed at 100 per cent between the current money and the American gold, so that $2 current money shall be equivalent to $1 American gold. For bonds and contracts between private individuals, the value assigned to the current money in its relation to the American gold money is the same as that assigned to the present silver dollar of Mexican coinage in its relation to American gold; and it is declared that every

dollar of current money is equivalent and a substitute for each dollar of Mexican money. The foreign silver money actually in circulation will be admitted in private transactions until six months after the promulgation of the present decree, and at the end of that term the said money shall not be legal tender in the Republic, regardless of its weight and alloy.

The silver money that may be debased by being bored or pared, and that can not be exported on account of the debasement, will be permitted to be exchanged to the value they represent, at the office of the general auditor of finance, for silver of the national coinage.

This decree, from the date of its promulgation, annuls all laws and dispositions so far as they may be contrary to it, and will be sent to the Executive Power for constitutional purposes.

* * * * * * *

UNITED STATES ENTERPRISE IN BRITISH HONDURAS.

I have to report that the Stamford Manufacturing Company, of Stamford, Conn., has established an agency here for the purpose of cutting and exporting logwood to its works in the United States. The company holds a concession from the Mexican Government, permitting it to cut and export logwood from the Mexican side of the River Hondo, which is the boundary line between Mexico and this colony. To facilitate the business, the company built a line of pole road, to be operated with a locomotive, and a stern-wheel steamboat, which will be employed in transporting the wood to Belize, where it will be loaded on schooners. The schooners will also bring supplies from the United States, and the entire enterprise will undoubtedly aid in developing American trade with this section of Central America.

ALBERT E. MORLAN,
Consul.

BELIZE, *May 18, 1897.*

BELIZE-NEW YORK-HAMBURG STEAMSHIP SERVICE.

Referring to my report of December 2, 1896, announcing the contract with the Atlas Line and the arrival of a German steamer from Hamburg,* I have now to report that both lines have discontinued sending their steamers to this port.

ALBERT E. MORLAN,
Consul.

BELIZE, *May 14, 1897.*

---

*Printed in CONSULAR REPORTS No. 196 (January, 1897), p. 142.

RAILROAD IN BRITISH HONDURAS.

I have to report that the engineers sent by the Colonial Office in London to survey and report on the practicability of the proposed railroad from Belize to the western frontier of the colony have completed their report, and copies of it, with map, can be had, including postage, for $3.

The total length of the proposed line is 72 miles, and the estimated cost, including pier, is £734,663 ($3,575,237.48). This estimate, however, is for a road built in the most approved and substantial manner.

There is no doubt in my mind that a road could be built and equipped with American rails and rolling stock for as many dollars as there are pounds given and have a handsome margin of profit. There are no engineering difficulties to be overcome, and by changing the proposed route a little, the bridging and exposure to floods can be avoided.

Owing to the enormous cost, as estimated in the report, the Government have decided that the road would not pay interest on the investment unless it were continued into Guatemala, and negotiations through the Foreign Office are now being carried on for the purpose of learning the views of the Guatemalan Government on the subject.

The colonial government is prepared to consider tenders from reliable companies for the construction of a railroad to the western frontier and to grant concessions of land, with a bonus of money, to aid the enterprise.

This would be a good field for American capital and would largely increase trade with the United States.

I have no doubt a concession could be obtained from Guatemala and Mexico, should the company wish to extend the railroad into those countries. This I should consider highly desirable, as immense quantities of logwood and mahogany are reported to be available on the opening of a railroad to the interior of these parts. It is also said to be a fine country for agriculture and grazing, with a temperate climate.

ALBERT E. MORLAN,
Consul.

BELIZE, *May 25, 1897.*

COMMERCE AND NAVIGATION OF MARTINIQUE.

I forward a complete statement showing the movement of commerce and navigation of Martinique during the year ended December 31, 1896; also, a separate statement of the imports from the United States for the same time.

Imports from the United States from January 1, 1896, to January 1, 1897.

Articles.	Quantity.	Articles.	Quantity.
Thin sugar shooks, with heads, for sugar factories.......................number..	32,720	Carriages.............................number..	10
Sugar barrels, with heads and hoops, for sugar factories.............number..	2,400	Corn...bags..	20,344
Sugar-barrel heads for sugar factories.......................................pairs..	14,850	Oats ....do...	2,000
Rum shooks, with heads, for the trade.................................number..	10,748	Leaf tobacco...................hogsheads..	200
Rum heads for the trade, bundles averaging 5 pairs each....................	3,179	Flour ....barrels..	62,967
Shingles (cypress)................number..	250,000	Pork...do...	6,118
White oak staves for the trade......do...	1,257,376	Beef ....do...	4,217
Pitch-pine lumber.......................feet..	1,431,847	Cotton-seed oil...........................do...	5,325
Barbed fence wire.....................coils..	600	Biscuits.......................................do...	3,575
Mules...................................number..	160	Pease and beans.........................do...	4,040
Horses...do...	50	Petroleum..............................cases..	22,700
		Oleomargarine...........................do...	4,926
		Butter ....do...	674
		Do...kegs..	160
		Ham...................................tierces..	340
		Assorted canned goods............cases..	650

Movement of commerce and navigation from January 1, 1896, to January 1, 1897.

IMPORTATION.

Flags and places of production and destination.	Number of vessels.	Tonnage.	Origin of goods.	Value of shipments.	
French vessels coming—				*Francs.*	
From France.................	81	80,117.39	Foreign	504,797	$96,151.80
			French	7,397,087	1,408,968.95
From French colonies...	156	19,147.03	Foreign	87,868	16,736.67
			French	1,319,925	251,414.28
From United States......	3	3,148	....	10,870	2,070.47
From other countries.....	115	97,140.54	....	1,057,686	201,464.00
Total..........................	355	181,552.96	....	10,378,233	1,976,806.17
Foreign vessels coming—					
From France.................	23	8,727	Foreign	56,054	10,676.95
			French	1,923,597	366,399.42
From French colonies...	2	942	....	....	....
From United States......	88	87,406.72	....	6,991,433	1,331,701.52
From other countries...	220	72,940.09	....	3,536,188	673,559.61
Total..........................	333	170,015.81	....	12,507,272	2,382,337.50
Total for 1896.....................	688	351,568.77	....	22,885,505	4,359,143.67
Total for 1895.....................	642	347,530	....	21,158,936	4,030,272.38
Increase	46	4,038.77	....	1,726,569	328,871.29

Movement of commerce and navigation, etc.—Continued.

EXPORTATION.

Flags and places of production and destination.	Number of vessels.	Tonnage.	Origin of goods.	Value of shipments.	
				Francs.	
French vessels going—					
To France	92	83,274.47	Foreign	673,913	128,364.38
			French	1,193,772	227,385.14
			Produce of the soil	7,700,717	1,466,803.23
To French colonies	153	14,988.87	Foreign	141,029	26,862.66
			French	369,994	70,475.04
			Produce of the soil	182,902	34,838.47
To United States	4	4,273	Foreign	24,900	4,742.85
			French	3,292	627.04
			Produce of the soil	34	6.47
To other countries	96	76,469.59	Foreign	611,380	116,453.33
			French	193,165	36,793.33
			Produce of the soil	4,808	915.80
Total	345	179,005.93		11,103,906	2,114,267.74
Foreign vessels going—					
To France	65	24,951	Foreign	23,729	4,519.80
			French	375,999	71,618.84
			Produce of the soil	9,757,907	1,858,648.95
To United States	19	11,398.22	Foreign	991	188.76
			French	1,346	256.38
			Produce of the soil	1,785	340.00
To other countries	243	130,312.89	Foreign	56,115	10,688.57
			French	186,767	35,574.66
			Produce of the soil	6,481	1,234.47
Total	327	166,662.11		10,411,120	1,983,070.43
Total for 1896	672	345,668.04		21,515,026	4,097,338.17
Total for 1895	630	342,888		19,645,771	3,742,051.61
Increase	42	2,780.04		1,869,255	355,286.56

JULIUS G. TUCKER,
Consul.

MARTINIQUE, *May 27, 1897.*

NEW BANK IN CARACAS.

I inclose a translation of a contract for the establishment of a new bank in Caracas, made between Messrs. Rutgers de Beaufort, of Amsterdam, Holland, and the Minister of the Interior of Venezuela.

Messrs. Rutgers de Beaufort, bankers in Amsterdam, have by this contract the right to establish branches of the bank in all the cities of Venezuela and to issue double amount of their capital in bank notes, holding the same value as the notes of the Bank of Venezuela.

The capital of the bank is placed at 20,000,000 bolivars ($3,860,000). The Government of Venezuela cedes to Messrs. Rutgers de Beaufort the monopoly of all the salt mines in Venezuela.

I see from the newspapers of this country that this act of the Government has created dissatisfaction among the people.

E. H. PLUMACHER,
Consul.

MARACAIBO, *May 12, 1897.*

CONTRACT MADE BETWEEN THE MINISTER OF FINANCE OF THE UNITED STATES OF VENEZUELA AND MR. RODOLFO EMILIO STANG, ATTORNEY FOR MESSRS. RUTGERS DE BEAUFORT.

The Minister of Finance of the United States of Venezuela, being authorized by the President of the Republic, and with the deliberative vote of the Government council, for the first part; and Mr. Rodolfo Emilio Stang, in his capacity as attorney agent of Messrs. Rutgers de Beaufort, of the city of Amsterdam, as per legal power presented, for the second part, have agreed upon the following contract:

ARTICLE 1. Messrs. Rutgers de Beaufort bind themselves to constitute at Caracas, and in conformity with the laws of Venezuela, a company under the name of "Banco Bolivar," within three months after the date on which the National Congress approves this contract, this period being capable of extension for the term of three months more, in case the bank should not be established in the first period owing to unforeseen circumstances.

ART. 2. The company which the contracting parties bind themselves to establish will perfom all banking operations, issuing drafts, discounting, receiving deposits, making loans on interest (with and without guaranties), taking mortgages, and all other operations authorized by law for this class of institutions.

ART. 3. The capital of the bank shall be 20,000,000 bolivars, which can be increased according to the rules established in its statutes; and, according to law, branches or agencies will be established in cities of the Republic when they are thought necessary to develop business and to facilitate agriculture and industry.

ART. 4. The bank for the present will appropriate 10,000,000 bolivars ($1,930,000), to be loaned to the agriculturists and breeders of Venezuela.

ART. 5. As soon as the Bolivar Bank is constituted, the National Government will grant it the general administration of the salt ponds existing in the Republic, and also of those which may be formed during twenty years, which shall be the period that this contract shall last, counting from the date on which it shall be approved by Congress. As soon as the bank notifies the Government of its installation, the latter will proceed to deliver the management of the salt ponds and put the bank in possession of the buildings, granges, machinery for obtaining the salt, boats, furniture, and all other implements used in working the salt ponds.

ART. 6. The Bolivar Bank will thereafter collect, in the name of the Government, all revenues from salt which to-day are in charge of the Bank of Venezuela and deduct therefrom all expenses for working and also for general administration, said estimate to be approved by the Government, and the bank shall retain as remuneration 10 per cent of the income of the salt ponds.

ART. 7. The contractors will grant to the National Government credit on current account to the amount of 6,000,000 bolivars ($1,158,000), which shall pay interest at 8 per cent yearly and shall be drawn upon by the Government as follows:

Three million bolivars seventy days after the President of the Republic has given his signature to this contract, the same having been approved by Congress, and the balance at the rate of 1,000,000 bolivars ($193,000) every three months after the delivery of the first installment. After the amount of three millions has been put at the Government's disposition, the latter will give every fortnight to the concessionaries, or to whosoever they may appoint in Caracas, the whole product of the salt ponds.

ART. 8. After the expenses of administration, the commission of 10 per cent, the interest on the credit granted as per foregoing article, and the trimonthly amount of 75,000 bolivars are all deducted, the balance shall be put at the Government's disposition.

In case the income from the salt ponds should prove insufficient to cover these outlays, the National Government will pay to the bank in gold whatever the difference may be.

ART. 9. The bank can, if it should find it advisable, open credit in the States of the Union, and even in its towns, and enter into any negotiations agreed upon.

ART. 10. The National Government agrees not to allow, during the term of this contract, the introduction into the country of foreign salt, nor to diminish the taxes on salt for interior consumption and exportation, without the consent of the bank.

ART. 11. The bank shall forward quarterly returns, together with a report on the salt ponds and an account of its administration, which shall be approved within sixty days if there is no objection.

ART. 12. The Government, wishing to favor the establishment of the Bolivar Bank, shall grant it the same privileges and exemptions as those given to the Bank of Venezuela in forwarding correspondence and in permitting the use of the national telegraph offices.

ART. 13. The Bolivar Bank shall be exempted from paying custom-house duties on materials imported for its buildings; also on its safes, books, and other articles intended for use in its offices, with the exception of stamps used in the collection of taxes and the charge for the examination of gold coins which are introduced.

ART. 14. The Bolivar Bank can issue notes for double the reserve capital, which are not intended for mortgage operations according to the bank laws now in force, and under the same conditions governing the other banks in Venezuela. These notes shall be received by all the public offices, under the same conditions as those of other banks, and shall be payable in cash at sight to the bearer, either at the principal office of the bank in Caracas or at the agencies, as stipulated by its statutes.

ART. 15. In conformity with bank laws, the Bolivar Bank can issue mortgages from the amount intended to promote agricultural and breeding interests.

ART. 16. This contract can be transferred to any other company with previous approval of the National Government, and the transference shall be written on common paper, free of all register fees.

ART. 17. The questions and controversies which may arise in the understanding and execution of this contract shall be decided by the courts of the Republic according to law, and in no case will it be made an international affair.

Two copies made to the same effect, at Caracas, on the 1st day of April, 1897.

C. BRUZUAL SERRA.
R. E. STANG.

AMERICAN IRON AND STEEL IN GREAT BRITAIN.

The accompanying article, from the London Times of this morning, will, I think, give a fair idea of the general feeling here about the recently developed competition from the United States in iron and steel. Since my last report on this question, large sales have been made of steel rails for the use of the principal railways of the

United Kingdom, while shipments of iron and steel for ordinary commercial use have contiuued.

I am now asked continually by manufacturers in this great metal district, Is this competition to be permanent? Upon giving an answer in the affirmative, the next inquiry is, Where can I buy this steel? or, Have the manufacturers an agency in this district? The shipments thus far made have given general satisfaction as to quality, although I sometimes hear the strange complaint that it is too good, which means that it is better than the manufacturer has been accustomed to employ for a given product; and yet he is able to use it because the price is lower than that of English steel. Explanation of these conditions is not a part of a consular report, as a knowledge of actual conditions in a foreign market is more important than discussions or explanations.

But I have no doubt that the latter would be welcome to the English ironmaster, and, in a smaller degree perhaps, to the English public. The English workingman, if he should ever wake up enough to take a serious interest in the business out of which he gets a livelihood, may like to know how this has come about. That there is a genuine fear of this competition is, I think, plain from the Times review, written by a specialist in this industry. I am sure that those engaged in the iron and steel manufacture in the United States will read it with interest and study it with care.

When we can pay to one man the wages which two men command in England for doing a like amount of work in the same time, and then can send the product of that man's labor abroad to compete with that of the two men, although the latter are backed by unlimited capital, the result should encourage us to try other markets where the pressure is not so direct. Effectiveness of labor and perfect organization of business have become the most important elements in modern industrial development.

GEORGE F. PARKER,
Consul.

BIRMINGHAM, *April 14, 1897.*

[From The Times, London, April 14, 1897.]

THE BRITISH IRON AND STEEL INDUSTRIES—THEIR PERILS AND THEIR PROSPECTS.

The Duke of Devonshire, in presiding recently over the annual general meeting of the Barrow Hematite Steel Company, pointed out that the revival of business which took place last year had not been so pronounced as that which occurred in 1889–90, and that prices had not taken by any means so high a range as they did on the occasion of the last revival in those industries. There are, of course, two ways of comparing one period with another from a purely business point of view. One is to adopt the measure of volume; another is to apply the test of price. Judged by the former criterion, it appears from the statistics which have recently been compiled and issued by the British Iron Trade Association that the improvement of trade in 1896 was the most notable on record, at any rate so far as pig iron and steel are concerned. The total make of pig in Great Britain in that year was 8,563,209 tons, or an increase of 667,534 tons on the output of the previous year. This is the largest output that we have had in this country, but it is not so large as several annual outputs in the United States, and notably those of 1890 and 1895, in both of which years the American output exceeded 9,000,000 tons. The largest amount of increase in the British pig-iron production of 1896 occurred in the Cleveland district, where the make was 253,561 tons in excess of the output of 1895. There was, however, a more or less considerable increase in all the leading iron-producing districts, except South Staffordshire and Northamptonshire, so that the improved condition of business has been pretty generally shared by all the iron fields of the country.

It is no secret, however, that the output of iron would have been still larger but for two circumstances of a more or less abnormal character—the first, the scarcity of iron ores, which has been seriously felt almost for the first time in the history of our iron trade; and the second, the demoralizing effect on prices and production exercised by the importation into British markets of pig iron produced in the United States. So far as the first of these influences is concerned, a great strain was put upon all the ordinary sources of supply, both at home and abroad, to furnish a notably larger output of ore in 1896. As a result, we were able to import about 1,000,000 tons more of hematite ore from Spain and other countries in that year. This increased output of foreign ore for British blast furnaces would be equal to an output of about 500,000 tons of pig iron, so that the actual increase of home iron-ore output would not be more than 400,000 to 500,000 tons. In other words, the increased output of British iron in 1896 was not accompanied by any corresponding increase of home ore production, but was mainly dependent on increased imports of foreign ores, which are generally regarded as a somewhat precarious source of supply, in view of the threatened exhaustion of the ores of the north of Spain and the anticipated higher cost of the ores procurable from other foreign sources, which are mainly the south of Spain and the ore deposits of Gellivara, within the Arctic Circle, and Grängesburg, in Sweden. It is not too much to say that almost every iron-making firm in Great Britain engaged in the manufacture of hematite iron, which is nearly one-half of our total output, is at present anxiously concerned about the question of future ore supplies, and is more or less apprehensive that a few years hence at the most will witness such a depletion of cheap foreign ores and such an increased cost, due to higher cost of freights by railway or sea, in respect of other possible sources of supply, as seriously to threaten the maintenance of the relatively cheap iron output hitherto enjoyed by this country. This apprehension, however, may not be justified by the results. While it is probable that there is no second Bilbao available for the British iron trade, it has within the last two or three years been demonstrated that Spain has very large undeveloped resources in iron ores of a high quality, and in quite a number of cases these have been acquired by leading British firms.

The second point affecting our iron and steel industries in the past year was the introduction into our home and foreign markets of the new factor of American competition. On this point the Duke of Devonshire remarked that "in the American competition the cutting down of prices appeared to be something astonishing," and he expressed the hope that "American competitors might be satisfied to confine a good deal of their fighting to their own country." The American iron trade, however, do not show the least intention of thus limiting their markets. On the contrary, they are making their plans all along the line for much more successful rivalry than they have hitherto achieved, and that largely by means which were brought to the notice of the Duke and his codirectors on the Barrow board by Sir Edward Carbutt on the authority of Mr. Windsor Richards, the president of the Institution of Mechanical Engineers. It appears that the most remarkable of these means is the gigantic scale on which American iron-making plant is now built and operated. As a case in point, the new blast furnaces of the Carnegie Company, at Duquesne, near Pittsburg, may be referred to. Each of these furnaces is producing at the rate of 200,000 tons of pig iron per annum, whereas the British Iron Trade Association figures show that the average annual output of the British blast furnaces in operation during 1896 was only 23,682 tons. Hence a new Carnegie furnace will produce more than eight times the average of our British furnaces, and hence also the remarkable conclusion that, if British furnaces were equipped to do as much as these furnaces at Duquesne, about 40 furnaces would do the work that we employed 362 furnaces to do in 1896. It is much the same with other branches of the iron industry. According to a well-informed writer in a recent issue of the Iron and Coal Trades Review, the newest type of Garrett wire mill used in the United States can produce about 100,000 tons of wire rods per year, which is very far in advance of any output recorded in this country, where the mills are of a different type; and it is further shown that some of the most improved rail mills in the United States are capable of producing about 50,000 tons of finished rails per month, which is more than the total output of rails in Great Britain, and probably nearly three times as much as any rail mill can produce in this country in one year. These figures appear to be almost incredible, and in times past similar statements have been pooh-poohed by our ironmasters as mere Yankee bluff and buncombe. But this is no longer the case. On the contrary, some of the most recent plants constructed in this country have adopted American methods, and the Duke of Devonshire, as chairman of the great Barrow company, practically admitted American superiority. He did not, however, add, as he might have done, that the most wonderful thing about this American competition in rails, blooms, billets, and wire is the fact that the ores used have to be conveyed a distance of 600 to 800 miles to the blast furnaces, and that the finished products have to be carried from the interior, 500 miles from tide water, to New York, and thence transported a distance of 3,200 miles by sea, before they enter into competition with British-made steel, which has no such great distances to cover, but, on the contrary, is in all cases manufactured close to shipping ports. Needless to add, the main element that enables the American iron trade to achieve this striking result is cheap transport by rail and water. While the British iron trade continues to be handicapped by railway freights which average for mineral traffic from a penny (2 cents) to 3 halfpence per mile, the American iron traffic is now being carried over a large area for 3 mills per ton mile, or one-seventh of a penny; and this, it is expected, will become an established rate in the future for mineral traffic carried on a large scale.

So far as the British steel industry is concerned, the figures collected by the British Iron Trade Association show that the output of Bessemer ingots for 1896 amounted to 1,815,842 tons, which is an increase of 280,617 tons on the output of the previous year. The output of open-hearth steel is rather over 2,000,000 tons, which is the largest output hitherto recorded in the history of this industry. The total output of British steel of all kinds in 1896 amounts, therefore, to close on 4,000,000 tons. The American and German outputs for the same year have not yet been definitely stated, but it is believed that the former will not be much short of 5,000,000 tons. The output of basic Bessemer steel ingots in 1896 amounted to 457,262 tons, against 441,550 tons in the previous year. The basic process, which enables a large proportion of our home ores to be utilized, fails to make anything like the progress at home that has been achieved abroad, mainly because British engineers and steel users specify for acid or ordinary Bessemer or open-hearth steels, to produce which we have to import suitable ores chiefly from abroad. Some authorities believe that the basic process will make much more rapid progress in this country if imported ores become dearer, as we have indicated the probability of their doing; but that and other problems at present pending in the iron industry must await the determination of events.

EXPORTS FROM MANCHESTER TO THE UNITED STATES.

I inclose the declared exports hence to the United States of cotton velvets, corduroys, and fustians for January, February, March, and April, 1897, with exact yards and declared value. For comparison of values only (the yards not given), I inclose the classified table of exports for the calendar year 1896.

WILLIAM F. GRINNELL,
Consul.

MANCHESTER, *May 5, 1897.*

Quantities and values of cotton velvets, cords, and fustians exported hence to the United States, during the first four months of 1897.

Month.	Quantity.	Value.
	*Yards.**	
January	858,346	$140,642.07
February	1,124,380½	173,501.19
March	2,284,736¼	340,088.43
April	6,225,857	841,859.75
Total	10,493,319¾	1,496,091.44

* Lineal.

Value of declared exports from the consular district of Manchester to the United States during the calendar year 1896.

Articles.	Quarter ended—				Total.
	March 31.	June 30.	September 30.	December 31.	
Buttons	$2,761.26	$1,630.15	$1,728.82	$785.62	$6,905.85
Card clothing	46,099.23	18,327.34	3,823.42	4,301.03	72,551.02
Carpets and rugs	64,564.51	22,544.91	12,482.63	22,956.19	122,548.24
Cattle hair and other hair	10,027.75	4,873.07	722.94	8,348.34	23,972.10
Colors, dyestuffs, and chemicals	227,892.35	117,856.41	99,820.17	189,240.06	634,808.99
Cotton (Egyptian)	32,740.42	11,807.33			44,547.75
Cotton and worsted and worsted stuffs	143,834.98	81,229.22	67,648.20	40,230.75	332,943.15
Cotton piece goods	517,070.98	252,360.79	210,158.77	378,288.31	1,357,878.85

Value of declared exports from the consular district of Manchester, etc.—Continued.

Articles.	Quarter ended—				Total.
	March 31.	June 30.	September 30.	December 31.	
Cotton velvet, fustians, etc	$632,409.36	$522,755.22	$656,938.18	$516,055.64	$2,328,158.40
Cotton-velvet skirt bindings	273,636.71	244,138.84	229,591.15	239,965.05	987,331.75
Cotton yarn and thread	172,628.37	114,736.27	86,191.09	90,633.57	464,189.30
Curtains, laces, etc	97,345.00	50,552.60	17,320.94	46,639.38	211,857.92
Damasks, etc	95,095.28	91,282.46	2,856.14	3,638.77	192,872.65
Elastic web, cord, etc	22,115.65	16,391.59	12,577.70	15,188.82	66,273.76
Felt hats	16,538.86	19,967.59	18,380.08	1,068.31	55,954.84
Handkerchiefs	120,927.05	143,995.27	79,940.03	70,786.30	415,648.65
Hosiery	45,287.59	32,490.55	12,613.26	10,614.75	101,006.15
Iron, steel, etc	33,031.94	26,920.28	27,053.54	23,652.09	110,657.85
Leather and hides	53,090.56	46,461.86	42,623.53	71,486.37	213,662.32
Linens	180,153.00	146,509.47	11,164.33	8,748.24	346,575.04
Machinery	544,867.88	414,321.36	244,504.88	209,717.12	1,413,411.24
Miscellaneous	43,625.66	29,688.81	24,503.94	36,678.52	134,496.93
Paper, paper hangings, etc	45,059.43	31,726.22	33,305.23	44,069.85	154,160.73
Quilts	18,334.04	5,261.34	19,711.82	17,277.03	60,584.23
Rags, paper stock, etc	69,229.77	54,824.44	53,281.22	59,780.13	237,115.56
Shawls, etc	6,103.26	20,419.27	21,096.95	1,595.26	49,214.74
Silk and cotton piece goods	25,631.77	3,033.05	5,559.91	11,744.98	45,969.71
Silk noils and waste	12,223.19	4,613.40	857.72	18,675.09	36,369.40
Silk seals, plushes, etc	28,812.76	41,599.75	15,660.02	14,703.36	100,775.89
Silk yarn	60,619.67	51,673.84	37,412.52	30,966.19	180,672.22
Tape, braid, etc	33,850.65	31,232.24	22,119.23	18,913.69	106,115.81
Towels	27,565.20	14,189.07	4,344.12	4,537.42	50,635.81
Waterproof garments and cloth	5,303.31	2,553.70	6,879.22	5,994.96	20,731.19
Blanketing, wool felt, lapping, etc	25,961.36	27,963.52	27,405.94	32,809.34	114,140.16
Wool and wool noils	7,457.02	913.63	....	3,616.46	11,987.11
Worsted yarn	1,482.10	69.71	34.07	184.93	1,770.81
Yarn (other)	6,810.11	9,223.32	3,023.55	6,908.26	25,965.24
Total	3,750,188.03	2,710,137.89	2,113,335.26	2,260,800.18	10,834,461.36
Same period in 1895	3,626,806.73	3,135,007.08	3,702,619.05	3,691,981.68	14,156,414.54

Consul Grinnell, in a letter to the Department dated April 24, 1897, containing information which is covered in the report of May 5, gives also the following statement:

Value of cotton-velvet skirt bindings shipped hence to the United States during the first three months of 1897.

January	$72,448.69
February	97,197.43
March	140,384.19
Total	310,030.31

The value of cotton-velvet skirt bindings exported to the United States from April 1 to April 20, 1897, was $145,513.95.

In a further communication of May 21, 1897, Consul Grinnell gives the exports of cotton yarn from Manchester for the first four months of 1897 and calls attention to the fact that the shipments during this period more than equal those during half of the year 1896. The figures are the following:

	Pounds.
January (34 counts)	93,342½
February (25 counts)	89,305½
March (30 counts)	145,418¼
April (48 counts)	249,147¼
Total	577,213½

IRISH CONSUMPTION OF MAIZE.

In the autumn of 1895, I had the honor to make some suggestions to the Department of Agriculture regarding the maize market abroad, and to mention the possibility of overcoming competition by the preparation of a maize cake. It seems that the Department of Agriculture has prepared and distributed circulars containing my suggestion, and I note that the circular has caused quite wide comment and some criticism. Experts of the New York Produce Exchange are quoted as saying "we are now feeding all Europe, Ireland included, with our corn;" "there is no necessity of converting the maize into cakes in order to get the Irish farmers to take it."

I have thought it well that exporters should understand their position in regard to foreign consumption. The corn crop in 1895 in the United States undoubtedly made a great change in the volume taken for export, but, despite that fact, the figures which I herewith furnish will show that the United States furnished, in 1896, less than half the maize consumed in Ireland and only a little more than half the value. This, taken in connection with the prevailing low prices, indicates that the time has not yet come in the maize export trade when the parties interested can afford to cease their efforts. The valuations given for the cargoes will show that 112 pounds of American maize were valued at 4s., or, say, 48½ cents, per bushel. The farmer who produced the corn probably received at his railway station anywhere from 15 to 20 cents for the corn per bushel. While a very large portion of the market is filled by imports from countries other than the United States, it would seem that there is abundant room for a still further extension of the American corn market; also, the low prices which have been realized by the farmers of the United States for their corn crop would seem to indicate that, despite the larger exports, the markets have been anything but satisfactory.

I give below the official returns of direct imports of maize into the chief ports of Ireland during the year 1896, showing the quantities imported from the various exporting countries:

Origin.	Quantity.		Value.		
Belfast.	*Cwts.*	*Per cent.*			*Per cent.*
United States	1,599,200	64	£336,180	$1,636,019	67
Argentine Republic	231,400		41,220	200,597	
Canada	245,800		48,295	235,027	
Roumania	422,400		75,806	369,019	
Total	2,498,800		501,501	2,440,662	
Cork.					
United States	449,200	25.15	83,014	403,946	25.9
Argentine Republic	1,275,100		226,752	1,103,488	
Roumania	62,500		10,800	52,558	
Total	1,786,800		320,576	1,559,992	
Dublin.					
United States	787,500	41.4	164,598	801,007	43.4
Argentine Republic	874,300		161,671	786,772	
Canada	109,700		21,269	103,505	
Roumania	56,000		9,800	47,691	
Russia	75,600		22,120	107,646	
Total	1,903,100		379,458	1,846,621	
Galway.					
Roumania	48,300		8,000	38,932	
Limerick.					
United States	164,500	20.8	30,489	148,375	22.2
Argentine Republic	470,100		78,599	382,502	
Roumania	155,600		28,160	137,041	
Total	790,200		137,248	669,918	
Londonderry.					
United States	904,500	73	167,312	814,223	73.4
Roumania	333,600		59,401	289,074	
Total	1,238,100		226,713	1,103,297	

The total for all Ireland was 8,265,300 cwts. (16,530,600 bushels), valued at £1,473,496 ($7,170,768), of which 3,904,900 cwts. (7,809,800 bushels) were from the United States, being 47.23 per cent in quantity, and valued at £781,593 ($3,803,622), or 53 per cent of the value.

If we divide the total quantity received at Irish ports from the United States in 1896 by its value, we find that it brought 4s. (97 cents) per cwt. of 112 pounds, or about 48½ cents per bushel. The direct returns of maize imports into the port of Dublin for 1894 amounted to about 2,000,000 cwts. (4,000,000 bushels), of which about 6½ per cent was from ports of the United States. It will be seen that there was a decrease in the receipts of nearly 100,000 cwts. as compared with 1894. It is true that, notwithstanding this decrease, the exports from the United States increased about sixfold; but, considering all the facts, the trade can scarcely be considered a satisfactory one to the producer, and it is probable that the traders themselves did business on slender margins. Hence, I am still of the opinion that any device which would condense the amount without changing the value and at the same time develop a new industry is worthy of careful study and investigation.

NEWTON B. ASHBY,
DUBLIN, *February 27, 1897.* *Consul.*

PROSPECTS FOR UNITED STATES MACHINERY IN BELFAST.

Consul Taney, of Belfast, writes, April 23, 1897, that he has received a letter from a manufacturing company of Chicago, making the following inquiries relative to road-building and earth-moving machinery:

(1) In what language is foreign commerce generally conducted?
(2) To what extent has American machinery been introduced?
(3) What is the general prospect for a successful introduction of such machinery?
(4) The names of American firms who are already introducing this class of goods?
(5) The names of native firms with whom correspondence might be opened?
(6) Are there any public or semipublic works in contemplation, and what is the address of the official in charge?

Consul Taney's answer to these inquiries (a copy of which was sent to the company making the inquiry) is given below:

* * * * * * *

(1) As you know, the language is the same, and foreign commerce is conducted generally on pretty much the same lines as our own.

(2) There are some kinds of American machinery in use here, but I am not aware that they apply to the moving of earth, construction of roads, etc. However, that need not discourage you, as the people are intelligent and fairly quick at discerning the good qualities of machinery in their respective lines of work or business, although they are conservative as to making changes. But when it is a question of dollars, they frequently subordinate their prejudice and conservatism.

(3) Answer partially covered in preceding paragraph. It may be added that there is a great deal of work going on in this large city in the way of public improvements, much of which calls for first-class labor-saving machinery.

(4) There are no American firms in this city, nor are there any firms that I am aware of which handle the class of machinery which you refer to; but I herewith append the names of firms in Belfast

which might handle such machinery. Even if they would not, direct communication with them in the way of letters, illustrated catalogues, etc., would do no harm, for some of them are interested personally in such work, and acquaintance with your machinery might cause them to impart their information to those who might need it. Their names are: Musgrave & Co., Ann street; J. Riddell & Co., Ann street; T. Dixon & Sons, Corporation street; Gregg Sons & Phœnix, Church lane. The firms I have enumerated are all large and responsible.

(5) Answered in preceding paragraph.

(6) There is much public work constantly going on in this growing and thriving city, such as widening, deepening, and lengthening docks, building of quays, etc. Last year, $250,000 were expended in this way. By all means, write to G. F. L. Giles, harbor engineer, who has immediate supervision of all such work. The contractors interested therein would be good parties for you to communicate with direct.

Just at present there is a very comprehensive scheme on foot to increase the city water supply. The distance the water is to be brought is some 40 miles. These improvements, it is estimated, will involve several million dollars' outlay. There is also on foot a scheme to improve the sewerage system of the city, which will involve a large outlay, and is under the supervision of J. C. Brittain, esq., corporation surveyor, to whom you should write. In both these undertakings, your machinery would be of great economic value to the contractors. It should be remembered in both cases that this large work is let out to contractors, and it is they who would have the greatest interest in utilizing the very best labor-saving machinery. I append a list of the principal contractors and builders in Belfast who execute the class of work in which you are interested: H. & J. Martin, Limited, Ulster Building Works, Ormeau road; McLaughlin & Harvey, Castleton Building Works, York road; Fitzpatrick Bros., Limited, contractors, Shaftesbury avenue; James Henry, contractor, 77 Crumlin road; C. Boyd & Son, Lagan Building Works, Ormeau road.

Since writing the above, I have called at the office of the Belfast water commissioners. The secretary has furnished the following information in regard to the letting of contracts and names of contractors for the new improvements for increasing and extending the water supply:

Contract No. 1.—Covering stand pipes, plates for lining outlet for tunnel, etc.; cost, $18,497.56; contractors, Laidlaw & Son, Glasgow, Scotland.

Contract No. 2.—Building reservoirs, water courses, etc.; contractors, Fisher & Le Vanu, Rosetta, Belfast; cost, $169,701.68.

Contract No. 3.—Part of main conduit, about 11 miles (includes 3 miles of tunnel, remainder cut and cover work); contractors, Fisher & Le Vanu, Rosetta, Belfast; cost, $698,342.75.

Contract No. 4.—Thirty-six inch iron pipes for siphon; contractors, D. Y. Stewart & Co., Glasgow, Scotland; cost, $96,220.43.

Contract No. 5.—Valves for siphon; contractors, the Glenfield Company, Kilmarnock, Scotland; cost, $6,306.98.

Contract No. 6.—Part of main conduit (includes 2 miles of tunnel), siphon, cut and cover work; contractors, H. & J. Martin, Limited, Belfast; cost, $461,602.12.

Contract No. 7.—Thirty-six inch pipes for siphon; contractors, D. Y. Stewart & Co., St. Rollox, Glasgow, Scotland; cost, $116,620.80.

Contract No. 8.—Thirty-six inch steel pipes; contractors, Thomas Riggot & Co., Birmingham, England; cost, $126,538.73.

Contract No. 9.—Valves; contractors, the Glenfield Company, Kilmarnock, Scotland; cost, $78,102.45.

Contract No. 10.—Cut and cover work; cost not specified; contractors, John Paterson & Sons, Limited, St. Enochs Square, Glasgow.

In conclusion, it may be worth remarking that while correspondence and illustrated catalogues may succeed in bringing you some business, the chances are that, unless backed up by other methods, they will accomplish little or nothing. After nearly four years' observation, I have concluded that the best and most certain way of negotiating new business is for some competent representative to appear on the ground in person and let the prospective buyer know all the particulars concerning what he has to sell. It is not always that the magnitude of the business involved will justify this outlay, but you will know better than I whether it would or would not in this instance.

WAGES PAID BY BELFAST GAS WORKS.

Since my report to the Department of State on the "Cost of illuminating gas in Belfast," which was published in the April number of the CONSULAR REPORTS, I have had a number of inquiries for further information upon the subject.

As the interests of the public are likely to be best promoted by its publication in CONSULAR REPORTS, I herewith submit such information as was not covered by my former report.

Stokers are paid $9.48 per week of seven eight-hour shifts. This is the remuneration of the man who charges the retorts by shovel. The other two men in the gang of three, who draw out the coke and wheel it to the coke yard, receive $8.51. Ordinary yard laborers are paid a minimum of $4.01 per week. Their weekly hours are fifty-eight and one-half.

Owing to the limitation in the production of coke, caused by the extensive use of the carburetted water-gas plant, and also to the absence of any competition from neighboring towns to get rid of their surplus quantities, the works obtain an exceptionally high price for this residual. It will bring, on the average, $4.25 to $4.38 per ton for the large coke. Breeze, of course, is sold at a much cheaper rate.

Collectors, clerks, etc., at the office, are not paid on weekly wages, but on salaries. As a rule, they begin as boys and pass through an apprenticeship of five years, during which time they receive an aggregate of $632.64. They afterwards go on with a $48.66 yearly increase to $583.98 as clerks. Inspectors are also on the salary list, and their maximum salary is the same. Collectors commence at $583.98 per annum, with a yearly increase of $48.66, up to $1,216.62. The total staff included under these classes numbers about sixty.

The coal supply is chiefly the Arley mine, in the Lancashire district, and coal of the Silkstone class from South Yorkshire. There is occasionally used a portion of Scotch coal, but most of the soft coals from Scotland are of poor quality.

JAMES B. TANEY,
Consul.

BELFAST, *April 20, 1897.*

AMERICAN HORSES IN BELFAST.

In the CONSULAR REPORTS for July, 1896, there was published, under the head of "American horses in Ireland," a short report of a public sale of 23 head of horses, prices realized, description, and other particulars thought to be of value to breeders and dealers of horses for export from the United States.

On that occasion, the stock was not of a very high standard, as the prices brought plainly indicated; but on Friday last, a public sale occurred, as advertised, at one of the horse bazaars, of 29 head of superior geldings and mares, imported largely from Kentucky. The matter deserves publication in the CONSULAR REPORTS because of the brisk demand for such stock and the fair prices realized. It is alleged there were two thousand spectators and buyers present during the sale.

Below is a descriptive list, with prices. The lot ranged from 5 to 8 years old. Three out of the number were not sold, on account of illness. The figures $894.22 and $862.66 represent prices brought for each pair.

Description.	Match.	Height.		Price received.
		Hands.	*In.*	
Black mare	Well matched	16	0	$337.25
Black gelding		16	0	275.92
Bay gelding	Perfectly matched	16	1	894.22
Do		16	1	
Dark-bay gelding	Well matched	15	3	342.35
Do		15	3	250.38
Brown gelding		15	3	316.80
Do	Well matched	16	0	817.57
Do		16	0	
Do		16	0	862.66
Blue roan gelding	Well matched	16	0	894.22
Do		16	0	
Chestnut gelding	Good matches	15	3	419.00
Do		15	3	240.16
Gray gelding		16	0	321.92
Bay gelding		16	0	347.46
Black gelding		15	2½	429.21
Brown cob gelding		15	0	306.59
Bay gelding		15	3	715.38
Chestnut gelding		16	0	286.13
Do		16	0	(*)
Do		16	0	(*)
Do		15	3	(†)
Dark-chestnut gelding		16	1	214.61
Chestnut mare		16	0	388.34
Black gelding		16	1	316.80
Do		16	0	204.40
Chestnut gelding		16	0	817.57
Black-brown trotting pony		13	2	510.98

* Absent on account of illness. † Not sold; in bad condition.

These animals were imported by a local dealer and breeder, who is not only familiar with the wants of this market, but has made a number of trips to the United States for the purpose of buying suitable stock.

The unusual interest manifested in the sale may be gathered from the following report, extracted from a local newspaper published the morning after the sale:

IMPORTANT SALE OF UNITED STATES HORSES.

Yesterday Messrs. Robson held a special afternoon sale in the Royal Victoria Horse Bazaar of twenty-nine high-class United States horses, recently imported by Mr. J. M. Johnson, V. S., Knock, who purchased them in the State of Kentucky, which is well known to be the best producing State for high-class horses in America. They were, without exception, the finest lot ever imported into this country. The attendance was one of the largest and most representative ever seen in the bazaar, buyers being present from all parts of England and Scotland. Dublin was well represented, while many well-known continental buyers were also in attendance. Notwithstanding the keen competition, local buyers were not to be outdone and secured a number of the choicest lots. The highest-priced horse was lot 10, a brown gelding, a marvelous goer, which, although unfit to be shown at the sale, was sold after spirited bidding to Mr. J. J. Ross, V. S., Belfast, for 170 guineas; Mr. James

Craig, Greencastle, took lot 28, a chestnut gelding, full of quality, manner, and action, at 160 guineas; lot 19, a beautiful bay gelding, with magnificent action and speed, was secured by Mr. John Gaffikin, Belfast, at 140 guineas; Mr. Stouppe Maginnis, Myrtlefield, gave 100 guineas for lot 29, a black-brown standard-bred pony, 13½ high, rising 4 years—a pony which is sure to beat the record of his size, and which will be an acquisition at the stud; lot 17, a black gelding, a true type of a harness horse and a good mover, was taken by Mr. Worthington, of Dublin, at 84 guineas; lots 11 and 12, a splendid pair of blue-roan geldings, were purchased by Mr. Weir, Alloa, at 175 guineas, while the same price was forthcoming for a pair of matched bays, and the same purchaser took a pair of black browns at 160 guineas; Mr. Thomas Gallaher, Ballygoland Lodge, secured lot 25, a chestnut mare of beautiful quality and breeding, at 76 guineas; Mr. John Thompson, of "Tantivy" fame, Dublin, secured several high-class coaching horses at prices ranging from 63 to 68 guineas; Mr. Robert McBride, Fernhill, Belfast, bought three handsome chestnuts at 82, 47, and 56 guineas, respectively; Mr. Thomas Talbot Power, Dublin, was the purchaser of a beautiful high-stepping cob at 60 guineas; the well-known local firm of Messrs. Melville & Co., Limited, bought a team of long-tailed blacks at 66, 54, 62, and 40 guineas, respectively; while Mr. S. Hackett bought a high-class bay harness horse at 49 guineas. Altogether the sale was most successful and realized the highest averages ever obtained for United States horses.

In this connection, it may be added that the stock were all carriage and riding horses from one-half to three-fourths bred. They were good, showy animals and would sell well anywhere, so that the prices brought here are not to be considered fancy. It may be noted that the horse which will sell well in the New York market will sell well in the Belfast market, and that there is always an excellent demand here for a limited number of that class of stock. Belfast is probably the best market, and with the least prejudice against American horses, of any city in Ireland; and from thirty to forty animals per week, such as were sold on Friday last, could be successfully disposed of. There is really little or no market here at present for inferior stock, for the supply from the United States exceeds the demand. Liverpool, Glasgow, and other markets are alleged to be glutted with them.

Sales of American horses are increasing annually in this market, and no doubt will continue to increase as prejudice decreases and buyers become acquainted with the superior qualities of American-bred stock.

Exporters should keep in mind that it is highly important for the success of their negotiations to know the class of horses most in demand at the several markets which they may want to reach.

JAMES B. TANEY,
Consul.

BELFAST, *May 13, 1897.*

BRUSSELS AS A TRADE CENTER.

American labor-saving machinery in all branches of industry is taking the lead throughout the world of manufacture. The good quality of the material employed, the superiority of workmanship, the excellence of finish, together with prices which can easily and steadily compete with those of the best European products, are well-known facts. While the general reputation of our mechanical inventions is widespread, the details of many individual machines are unknown. When the attention of Europeans is called to some device for saving labor, they often reply that it is the first time they have heard of it.

We must remember that only by optical demonstration of the practicability, usefulness, and economy of certain appliances can European manufacturers, as a rule, be induced to take up a novelty. England has, in this respect, a great advantage over the United States in attracting continental trade, and it is with England that we must chiefly compete. The English manufacturer opens a show room in his own establishment and invites continental buyers to inspect his machines, goods, or wares. If the amount claimed to be saved by some process or appliance is of any importance, the possible continental purchaser will readily make the trip to England to investigate the truth of the statements of the manufacturer; if convinced, he becomes a client.

This is where Americans are at a disadvantage. Possible purchasers will not go so far; we must go to the purchasers. Americans have in the past been slow to grasp this condition or have been contented to limit their transactions to domestic trade. For this reason, the continental field still open to superior American goods is, to a great extent, unworked and awaits the first occupants.

Suppose the advisability of establishing headquarters for American goods in some continental city be granted. Where shall it be? What city stands at the gateway to the continental market? What point is the nearest and most easy of access from the United States, and, at the same time, while situated in the midst of an industrial region, the best distributing point for the other countries of the Continent? If we examine the map of Europe, three or four names instinctively present themselves—London, Paris, Berlin, Brussels. All other cities, however important they may be, are either provincial or off the highways of commerce and can only be points of secondary distribution. London, while the greatest center of the world's commerce, is, except for acquiring British trade, impracticable. To reach continental purchasers, the exposition of goods in London means immediate and direct competition with English products in their own home market, and consequently at a natural disadvantage to ourselves. It also means that the continental tradesman must come to London and cross the English Channel or North Sea, a formidable trip for many. In the eyes of a Frenchman or a German, the journey to England is long—much longer than from New York to Chicago to an American. Then, when a sale is made, a warehouse in London means further transportation, both by sea and rail.

London, as a center from which to introduce goods to the Continent, is certainly at a disadvantage. Paris is better, for it is nearer the center of the Continent and at the heart of the French people—a nation admiring the name "American," united to us by the ties of past history and common republican institutions. But there are still hindrances. We must introduce our goods into Germany; without the German market, the attempt to reach European consumers is only half made. In Paris, we encounter this difficulty: German purchasers prefer to go elsewhere than to the capital of their great continental rival; consequently, to work through Paris for other markets than for those of Latin Europe is a mistake, for not only is the possible German trade cut off, but also the markets of the other great northern industrial nations of the Continent—Belgium, Scandinavia, and Russia—for which Paris is too far southwest to be a good distributing center.

To reach these last-mentioned nations, Berlin has advantages, and it is in much nearer proximity to a great industrial region than its French rival; but here we find the reversed side of the picture. French purchasers and French traders hesitate to go to Berlin. If established there, American producers must, in a large measure, sacrifice the possibility of a French market for their goods. Natural reasons also make this fact evident. To transport and pay freight as far east as Berlin and then be obliged to return the articles sold to the west would be the height of folly. The increased expense on many classes of merchandise would probably render such a system impossible, even if other difficulties were not apparent.

We have left for consideration as to its practicability as headquarters of American trade, Brussels. Has it advantages over other cities which materially count in its favor?

First, and above all, its situation. Direct lines of steamers carry merchandise from all American ports to Antwerp and Rotterdam in twelve to fifteen days. Brussels is about 26 miles from the former and 70 miles from the latter port. Goods can be easily and quickly transported to this capital, or, if stored at the port of arrival, be readily distributed by water to most all the great industrial centers of northern France, northern Germany, Belgium, and the Rhine Valley, even beyond the Swiss frontier, as well as the more northern countries of Europe. This question of accessibility to American ports, of proximity to European seaports, and ready and cheap transportation from the latter to inland points of sale and consumption is the most important factor in favor of Brussels.

Second, Belgium is neutral ground. German and French merchants and traders come to Brussels in a perfectly friendly spirit, without the slightest feeling that, by increasing its trade importance, they are giving strength to a rival. Neutral in war, Belgium is also a neutral in peace. As a matter of fact, at the usual weekly market held every Wednesday at the Exchange, merchants from Belgium, Holland, northern Germany, and northern France meet to trade and barter. Thus the opportunity is offered weekly to bring new ideas and recently introduced articles to the attention of the representatives of four nations. The short distance of Brussels from the great manufacturing centers of northern France and northern Germany is a decided advantage to this city. From Brussels to Lille or Roubaix, France, is about 66 miles; from Brussels to Barmen, Germany, is 160 miles.

Last, but not least, some attention should be paid to the local Belgian trade, of which Brussels is the center. Belgium, although a small country, is indeed the center of continental industry. Situated between two powerful neighbors—Germany and France—Belgium has more industrial energy than either and consumes and produces more manufactured goods and products per inhabitant than any other continental nation, possibly even excelling England in this respect. Not only must its trade in Europe be considered, but also the large quantities of raw products which it consumes in manufacturing for oriental and South American consumers.

Belgian manufacturers are willing and anxious to adopt the "new," provided that we can prove it is the best and can demonstrate its advantages over previous and present competitors. Not only the manufacturers, but all the 6,500,000 inhabitants of Belgium, crowded together in a territory as large only as the State of Maryland, are ready to welcome our products, goods, and manufactures, if the latter are sent without fraudulent representation and are found to be economical and profitable. The field is open, and through this gateway our trade may pass into the wider domain of the entire Continent.

The most advantageous center from which to develop European trade is emphatically Belgium, not only on account of its geographical position, but also by reason of its importance as an industrial and manufacturing country. These facts relative to this country and Brussels, the capital thereof, should not be overlooked by enterprising manufacturers seeking to extend their trade in Europe.

HENRY C. MORRIS,
Consul.

GHENT, *April 13, 1897.*

AN AMERICAN STORE IN BRUSSELS.

The producers and manufacturers of our country should, in my judgment, know of all openings for the introduction of their goods. When an American, fitted by nature and experience for such an enterprise, proposes to represent American interests in one of the leading cities of Europe, such an undertaking should be announced to his fellow-citizens through the channels provided by our Government.

At the risk of seeming to transgress the limits of my jurisdiction, I am moved for this reason to call attention to the recent inauguration of an American store or agency in Brussels.

Col. Charles J. Murphy, formerly special commissioner of the United States Department of Agriculture in Europe, and well known by his former successful efforts to introduce American agricultural products to European consumers, is the prime mover in this enterprise. He has secured the cooperation of the well-known firm Sinave-Meguot, of 155 Rue Neuve, which has the largest and most attractive store in the city of Brussels, located in one of the principal thoroughfares of this city. The store room offers a most suitable and convenient place for the permanent exposition of American goods and manufactured products. It is the intention to handle only manufactures and machinery of the highest grade. There are already to be found here various electrical apparatus, stoves, sewing machines, bicycles, safes, typewriters, perambulators, steam engines and boilers—all of American origin. There has also been set up a complete workshop for the nickeling of various articles after American methods.

In this connection, it should be remembered that the International Exposition opens at Brussels on April 24, 1897, and that large numbers of possible purchasers will, during the coming summer, be attracted to that city. This agency will admirably serve as a city sales room for goods, which may likewise be shown at the exposition.

Communications relative to terms, space, the possibilities of introduction of goods, and, generally, all inquiries regarding this American agency and sales room, should be addressed to Col. Charles J. Murphy, 14 Petite Rue de la Concorde, Brussels, Belgium.

HENRY C. MORRIS,
Consul.

GHENT, *April 6, 1897.*

AMERICAN PRODUCTS IN BELGIUM.

It gives me pleasure to call attention to the success of Col. C. J. Murphy in his efforts to introduce the products and manufactures of the United States into Belgium. Through this gentleman's labors of recent years, many of our goods heretofore unknown in this country have become known to Belgian households.

The most recent company interested through Colonel Murphy's representations is the Société Anonyme d'Importation et d'Exportation, whose headquarters are at 66 longue Rue Neuve, in the city of Antwerp, and whose capital is $100,000. This corporation has undertaken the introduction of American indian corn, oatmeal, self-raising flour, corn starch, and other cereal preparations, as well as California wines, fruits, and many others of our edible productions. Within three months orders were given for 9,000 boxes of California prunes, more than 100 casks of California wine, 5,000 cases of New York State evaporated apples, 3,000 barrels and 600 boxes of corn starch, a large quantity of oatmeal, and smaller quantities of various other cereal productions.

Another Antwerp firm has ordered within three months nearly 400,000 pounds of corn flour, principally for bread making, none of which has ever been used for this purpose in Belgium.

Attention should also be directed to the corn banquet to be given by Colonel Murphy, in the name of the State of Iowa, at the Hotel Metropole, in Brussels, on April 29, 1897. Colonel Murphy, as honorary commissioner of the State of Iowa for the introduction of its products into Europe, will invite to this banquet not less than two hundred and fifty guests, including the foreign ministers and consuls resident in Belgium, the leading newspaper editors, the Belgian military authorities, and directors of hospitals, prisons, and other public institutions which have large numbers of persons to feed. The object of this banquet is to give a practical exhibition of the methods of preparation of our various food products, to show how palatable many of them are (since more or less prejudice against them exists in Europe), as well as to give an idea of their cheapness, with a view to obtaining their adoption by the authorities in different branches of the public service. The value of indian corn (maize) as human food will be demonstrated, in an effort to secure its introduction in the manufacture of bread for army use.

Colonel Murphy, it may be said, is neither a corn dealer nor corn grower, and has not any present pecuniary interest whatever in this propaganda. As a continuation of his former labors for the

Department of Agriculture, which he represented for several years, he thinks he can not be of greater service to mankind than in instructing his fellow-men how and where to obtain the cheapest and most nutritious food. He believes also that at the same time he is helping the farmers of our Western States to secure a market for their surplus crops. Especially at this time, his efforts are opportune, as, for want of a market, much corn is being burned as fuel.

With cheap transportation to the seaboard, we can successfully compete with the most formidable rivals in the corn markets of the world, and at reasonably remunerative prices. We ought to be able to obtain a larger market for our great national granary.

The banquet at Brussels is patterned after a similar entertainment given some years ago at Copenhagen by the same gentleman, then representing the United States Department of Agriculture. The results have been enduring, and even now its effects are to be noted in the increased average annual exports of American food products to Scandinavian countries. It is to be hoped that the present undertaking will have a similar influence upon our trade with Belgium.

HENRY C. MORRIS,
Consul.

GHENT, *April 6, 1897.*

LUMBER IN GERMANY.

The laws of Germany governing the cutting down of forests being very severe, and the demand for building lumber, and that used in the manufactures of wood, growing annually in proportion to the industrial development and the increase in population, it follows that larger quantities of raw wood must be imported from year to year. The annual production of lumber in Germany is estimated to be 8,300,000 tons. The imports have risen from 2,800,000 tons in 1891 to 3,200,000 tons in 1896, and it is expected, for the reasons above stated, that the importations will continue to increase while the production will remain at its present figure.

According to her statistics, Germany buys from abroad between one-fourth and one-third of the total quantity of lumber consumed. The value of such imports were: In 1891, 134,100,000 marks ($31,916,800); 1895, 149,600,000 marks ($35,604,800); 1896, 171,800,000 marks ($40,888,400).

The unmanufactured wood exported is insignificant, and fell in value from 18,400,000 marks ($4,379,200) in 1891 to 15,400,000 marks ($3,665,200) in 1896. During the same period, the exports of manufactures of wood fell from 85,500,000 marks ($20,349,000) to 82,400,-

000 marks ($19,511,200). These figures show the importance of the lumber question to Germany. She is becoming more and more dependent on foreign countries for her supplies, and in a very striking proportion; and her export of manufactures of wood does not grow, which is explained by the increased demand at home.

The countries from which Germany draws most of her supplies are Austria-Hungary, Sweden, and Russia. The former sends raw lumber in increasing quantities, while the imports from the latter are decreasing.

At the present time, the supplies from the above-named lands are sufficient for the demand, but it is feared that the devastation of forests in Russia, Sweden, and Galicia will, in the near future, compel Germany to pay higher prices, unless these countries bring their production and consumption into the proper proportion.

Strict laws to this end should be made, or the countries in question will have the same experience as Spain, which was deprived of a part of her natural riches by the shortsighted policy of forest devastation by former generations. These governments should forbid the cutting down of forests unless new planting is made to replace them, as is the custom in Germany.

Germany looks to the enactment of even more stringent measures for the regulation of forestry, in order to avoid being dependent upon foreign markets and having to pay higher prices for lumber, which conditions now seem inevitable.

THOS. EWING MOORE,
Commercial Agent.

WEIMAR, *March 27, 1897.*

FOREIGN LUMBER IN GERMANY.

For the benefit of those American firms which applied for certain information regarding lumber imports into Germany, as well as for others interested, I make the following statements:

The 83,000,000 double centners of timber which Germany produces are not sufficient by any means to meet the demand of the home market and the supply must be drawn largely from abroad. Russia, Austria-Hungary, Sweden, and the United States furnish the necessary wood.

Russia's total imports into Germany in 1895 of building and other woods (split, sawed, and in logs), amounted to 63,346,000 marks ($15,076,000); Austria-Hungary's imports of the same woods during the same period were valued at 41,898,000 marks ($9,971,000); those of Sweden, 21,735,000 marks ($5,172,930); and those of the United States, 6,286,000 marks ($1,496,000). The total imports from all countries of these woods is valued at 149,605,000 marks ($35,600,000) for 1895 and 171,800,000 marks ($40,888,400) for 1896, as against an insignificant export of 14,045,000 marks ($4,606,000) in 1895 and 15,400,000 marks ($3,665,200) in 1896. These figures include oak staves, the imports of which, in 1895, amounted to 5,259,000 marks ($1,251,600), with exports of only 263,000 marks ($62,600). The greater part, namely, to the value of 3,535,000 marks ($841,330), comes from Austria-Hungary, while the United States participates in this stave trade to 1,312,000 marks ($312,300), and Russia to 401,000 marks ($95,450).

If the American stave people will push their goods on the German market as much as they seem to do in Spain, they will soon, if not surpass, at least equal the Austro-Hungarian imports into Germany. The Austro-Hungarian consul at Barcelona, who points out this fact to his Government, says that the Spanish market for his countrymen may be considered lost, as the Americans furnish staves not only better in form, but also 20 per cent cheaper, the latter being due especially to lower freight rates.

My observation is that American pitch pine, walnut, and oak are much liked, though the latter may be somewhat inferior to that from the German forests. Judging from the increased imports of American poplar, or whitewood, in 1895, as compared with 1894, there seems to be a market for this article. American cottonwood flooring finds much favor; it is of good quality, and there is little difference between it and poplar. American maple could, perhaps, be introduced. Last year Hamburg received a few trial shipments of this wood. Of American cedar for lead pencils, there arrived in Hamburg in 1895, 9,930 logs, weighing 765,000 kilograms, a considerable increase over 1894. The logs were sold rapidly and at good prices. The shipments from the United States to Hamburg in 1895 were: Of oak flooring, 32,358 boards; of hickory, 247 logs. Aspen wood for matches would also be a good article of import into this country.*

To reach southern Germany and the Rhine country, Rotterdam would be the proper port for transshipment; for central Germany and the Kingdom of Saxony, Hamburg would be the proper port. For northeastern Germany, Stettin is the chief wood market. Here, much of the Russian wood is landed; from here, also, large shipments of oak, either of German, Austrian, or of Russian origin, go to England. The exports thither in 1895 suffered somewhat, as the sizes and the quality of the oak shipments did not meet the approval of the English railway companies. Belgium and Denmark, and especially France, are also good customers of Stettin. The pine-wood trade in Stettin flourished in 1895, and fir could not be had in sufficient quantities to meet the ever-increasing demand. Lübeck should also be mentioned as a very prominent port for timber entries. During the first ten months of 1896, not less than five hundred and eighty-five vessels with good cargoes arrived, which is fifty-five vessels more than for the same period in 1895.

---

*See report on this subject in CONSULAR REPORTS No. 178 (July, 1895), p. 515.

In seeking new markets for American wood, treeless Egypt should not be overlooked. As a recent German consular report points out, wood for building purposes and coal form very important articles of importation. The former comes chiefly from Sweden, Russia, and Austria-Hungary.

A word in regard to the method of securing a foothold in this country.

Time and again, it has been said that the sending out of circulars, catalogues, business cards, handbills, posters, dodgers, and the like will not bring a single foreign customer, and it is a waste of printer's ink to employ this method alone. One countryman of mine perhaps realized this and resorted to the more simple method of soliciting trade in a far-off country by a 2-cent postal card. If we wish to get our due share of the world's trade, we must employ traveling agents. This is our method at home; why should it not also be our method abroad? No business man in the United States would ever think of sending out a man unfamiliar with the English language to solicit trade; but this is exactly what American manufacturers frequently do when foreign markets are sought. The agent to be sent abroad must be, not slightly, but perfectly, familiar with the language of the country where he is to travel.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *April 9, 1897.*

EXAMINATION OF HORSES AT BREMEN.

I inclose a translation of an order recently published in Bremen, governing the examination of horses imported here. The order appears to be a good one, but it can be easily used by those in charge to embarrass this important trade.

It must not be inferred that the state of Bremen desires in any way to hinder this or any other foreign trade, for it is from commerce she derives her life. On the contrary, both Bremen and Hamburg have aided greatly in the importation of horses by removing the eight days' quarantine existing at other places, which really does exist here, but is not enforced.

But there are other elements in Germany which need to be considered and which may prove fatal to this trade at any time, as they did in the case of cattle, if an opportunity should arise. The opportunity was given in the latter case by the exporters of American cattle by sending cattle unfit for shipment and overloading. Care should be taken in the shipment of horses to avoid such conditions. With the proper precautions, the danger will not only be lessened or removed, but the trade will be strengthened, because of the greater security afforded.

In my report to the Department of April 14, 1896, I pointed out some serious dangers to this trade and submitted facts and proofs in support of my statements. The same dangers exist now, but no remedy appears to have been applied.

It can not be too earnestly pointed out that the shipment of horses not fit for shipment and the improper ventilation of ships may destroy this trade in Germany.

The trade in American horses opened this year with increased vigor, and larger numbers of horses have been landed; but with the increased numbers come increased crowding of ships, poor ventilation, greater suffering, and death. Some shipments lost as many as 20 head. The cause of death is almost always the want of air, and the cause of cough and pneumonia is nearly always draft.

Insurance rates in Hamburg and Bremen have recently advanced to 10 per cent. The impelling force in Germany is being felt in consequence of the landing of horses not with infectious diseases, but maimed, so they can be thought to be bad, and such orders as the one inclosed result.

GEO. KEENAN,
Consul.

BREMEN, *April 3, 1897.*

REGULATIONS CONCERNING THE EXAMINATION OF HORSES IMPORTED INTO BREMEN.

With the approval of the Senate, it is decreed:

SECTION 1. That all horses arriving in Bremen by sea from foreign countries shall be examined by the police veterinarian. It shall be the duty of the ship's master to notify the police veterinarian as soon as the ship arrives in harbor. It is forbidden to land horses before permission shall have been granted.

SEC. 2. After the examination, the police veterinary doctor shall issue a written permit for the landing of the horses, if they are free from infectious disease. If they are not, the board of health must be notified, and the ship's master and others interested shall be held subject to the board's directions in the matter.

SEC. 3. The examination tax shall be 50 pfennigs (12 cents) for each horse. The ship's master and the consignee shall be held responsible for the payment of this charge. The charge will be exacted only for the first examination; subsequent examinations of the same animal shall be free.

SEC. 4. Violations of this decree will be punished under the general law (see the national law of May 1, 1894, concerning cattle pest) by a fine of 50 marks ($11.90) or fourteen days' imprisonment.

NEW DRY DOCK AT HAMBURG.

The shipbuilding yard and machine shops of Messrs. Blohm & Voss, at Hamburg, which for years have had in operation a large floating dock, known as the "Elbdock," have just completed a new dry dock, which is the largest of its kind in existence.

This new floating dock has a carrying capacity of 17,500 tons. Its length, with the pontoons, is 624 feet 4 inches and its width 118 feet 1 inch. It is able to raise the largest merchant vessels that have thus far been built, and even the heaviest men-of-war, and consists of seven separate pontoons with high and strong sidepieces. These seven pontoons can be joined together, so as to form one connected system. Each sidepiece contains an engine and boiler room for the pumps and electric and hydraulic machines. These two machines have condensers and 700 indicated horsepower each. They drive fourteen pumps, which are capable of pumping out the dock in forty-five minutes, and thus of raising the largest vessel in this short space of time. In order to regulate the raising and the lowering of the dock, it was necessary to divide each pontoon into several water-tight compartments, which are closed by means of stop valves. All these stop valves can be moved from one point by means of hydraulic power, and the depth of water in all compartments is indicated by special apparatus. By this arrangement, it is possible for one person to manage all the stop valves and to direct the pumping.

The blocks upon which the vessel rests are easily movable by machinery from the sidepieces. Altogether, this new dock is supplied with the most modern improvements, some of which were specially constructed. The dock harbor behind the shipyard has a depth of 26 feet 2 inches below 0, so that, at ordinary high tide, vessels drawing as much as 26 feet can be docked. A bridge 118 feet long connects the dock pontoon with the shore, from which the dock is therefore quite accessible. Next to the pontoon and on the quay of the shipyard, there is a huge crane, which, when projected 65 feet, can raise 150 tons and 45 tons when projected 106 feet. By means of this crane, heavy loads can be transferred directly from the shore into the dock across the largest vessels.

Owing to its peculiar construction, this great dock can, in cases of emergency or in time of war, be transferred to Brunsbüttel, at the opening of the Kaiser Wilhelm Canal, to dock vessels which have sustained heavy damages or whose draft is great. As a matter of fact, it is capable of docking vessels with a draft of 29 feet 6½ inches. No vessel with a greater draft than 27½ feet has thus far succeeded in coming up to the port of Hamburg.

Upon applying to the owners of the dock, I was informed that no fixed schedule of charges for the use of the same had been or would likely be determined. It was believed to be more profitable to make special arrangements in each case. I was given to understand that not even the German Government had been furnished with any tariff of docking charges, and that for the docking of foreign vessels of war it was probable that there would be charged about $975 for the first day and $250 to $500 for each following day. Messrs. Blohm & Voss desire it to be expressly understood, however, that they do not bind themselves to these figures.

There is little doubt that this capable and energetic firm, by the construction of the new dock, have met a long-felt want in Hamburg, whose docking facilities have of late years by no means kept pace with its shipbuilding. The Hamburg-American Line especially will have reason to look with favor upon the new enterprise, as it will enable them to dock their express steamers and large freight boats in their home port, instead of having to send them to English or American docks. The North German Lloyd, of Bremen, which also has some very large boats and is building more, will (as well as the German imperial navy) doubtless be glad to avail itself of these excellent facilities.

Although it is easy for persons connected with shipping to look them up in Lloyd's Register, I deem it not uninteresting to give, by way of comparison, the lengths of the largest graving docks in the world:

Docks.	Length.	Docks.	Length.
	Feet.		*Feet.*
Belfast	825	Havre	535
Birkenhead:		Marseilles	593
No. 1	750	Genoa	720
No. 2	930	Baltimore (Simpson's)	504
Cardiff	600	Brooklyn:	
Liverpool	708	Erie No. 1	620
London (Tilbury)	875	Erie No. 2	510
Newcastle (Wallsend)	520	Newport News:	
Southampton	750	At top	609
Antwerp	429	At bottom	550
Cherbourg	508	Norfolk, Va	500

It will be noticed that a large proportion of these graving docks are longer than Messrs. Blohm & Voss's new floating dock, which latter, however, far exceeds the dimensions of other floating docks in existence, the length of which is seldom more than 300 to 400 feet. It seems the builders desired a dock which could be transported to almost any part of the river below this port, and also one which they considered superior to any graving dock for the safe handling of large and long vessels.

W. HENRY ROBERTSON,
Consul.

HAMBURG, *April 20, 1897.*

UNITED STATES CAVIAR IN EUROPE.

After a careful investigation of the matter, based chiefly upon information received from a firm of this city which imports about 70 per cent of the caviar entering Germany from the United States, I would express the opinion that there exists a growing and profitable market for this article in this country, as well as in other countries of Europe.

The first importation of United States caviar into Hamburg was made twenty-nine years ago (in 1867). The shipment consisted of from 20 to 30 kegs of 135 pounds each, the price paid in America by the importers being 2 cents per pound. The caviar came from the Delaware River, from which locality comes 50 per cent of all the United States caviar now imported here. Four thousand kegs of about 140 pounds net each might be given as the total quantity. Both lake and river caviar are brought to this country, chiefly from the Delaware River, Georgetown, D. C., Chesapeake Bay, the Fraser and Columbia rivers, the Great Lakes, and the Lake of the Woods. Lake Michigan has been entirely fished out. The supply from Lake Huron and Lake Erie has grown quite limited, while that from Lake Superior remains good. The largest quantity comes from the Lake of the Woods. Lake caviar is preferred to that from the rivers, on account of its larger roe, the latter being small and black in the river caviar.

Nearly half of the importations of United States caviar is consumed in the cheap restaurants of Berlin; three-fourths of the other half goes to Austria, and the rest to Italy and other European countries. The importations are increasing, because the article commands a better price here than in the United States and because the supplies of the Elbe and Vistula are decreasing each year. Competition with Russia is possible on account of prices and with Germany on account of the growing scarcity of the native product, as above alluded to, and the larger roe of the American caviar. Holland ships a little caviar to Germany—about 500 pounds annually; the quality, however, is poor.

Elbe caviar sells here for about 3 marks (72 cents) per half kilogram (1.02 pounds); Russian sells for about 10 marks ($2.38) per half kilogram for good medium quality, the highest grade bringing 13 to 14 marks ($3.09 to $3.33) per half kilogram. These figures for the Russian caviar are the prices in the free harbor, that is, without duty of 75 pfennigs (17⅞ cents) per half kilogram.

Delaware caviar, I am told, cost at home, in 1893, from $25 to $28 per keg, and, in 1896, as high as $46 per keg. The prices this season are likely to equal those of last year.

Lake caviar was sold last year in the United States as high as $60 per keg of about 140 pounds net. While I can not vouch for the statement, I have been informed by the leading firm here that the highest amount ever received in this market for lake caviar was 2½ marks (59½ cents) per half kilogram, without the duty. This price includes, however, an apparent loss in weight of 10 per cent as the difference between American and German pounds, the freight from the lakes to Hamburg, cold storage, brokerage, commissions, etc., and 10 per cent allowance for spoiled goods.

United States caviar is sold here by German pounds net, and, strange to remark, is salted at home with German salt, which is sent there for the purpose. It is claimed that it possesses preservative properties superior to those of American salt. Even the caviar from as far west as the Columbia River is treated with German salt.

The freight from New York to Hamburg is about 2 marks (47⅝ cents) per keg, or 4 marks (95 cents) if shipped in refrigerators. The high freight from the lakes to New York is an unfortunate expense to the export trade in this article. Another serious disadvantage to our product is the equal specific duty of 75 pfennigs (17⅞ cents) paid by Russian and American caviar on entering Germany, which operates unfavorably because our article is so much cheaper.

With a view to increasing the popularity of United States caviar in this and other European markets, which an effort should be made to win, it is respectfully suggested to our dealers and exporters that not less than 14 pounds of salt should be used in preserving 100 pounds of roe, to which about 2 pounds of preservative salt should be added. Under such treatment, it is confidently claimed that the caviar could not possibly spoil. The Columbia River packers who now use pine-wood kegs, which are too light, should substitute those made of oak.

I should be most happy to do anything in my power to place our exporters in communication with reliable parties in this city handling United States caviar.

W. HENRY ROBERTSON,
Consul.

HAMBURG, *February 27, 1897.*

DRIED BEER GRAINS AS CATTLE FOOD.

As is known, in the brewing of beer, the barley, when allowed to sprout, is changed into malt; then the green malt is partially roasted, and under this process, the sprouts drop off, whereupon the roasted malt is put into fermenting vats. During all these important processes of brewing to which the barley is subjected, a number of chemical changes in the composition of the barley take place, which culminate in the transformation of the insoluble amyl contained in the barley into soluble saccharine and dextrin bodies. In the preparation of the wort, the soluble ingredients are extracted by means of lye, and the residue—the lixiviated malt groats—constitute what are called in German "Biertreber," or beer grains. During the preparation of the wort, small quantities of the azotic substances, especially amide, and of the salts are withdrawn from the malt simultaneously with the soluble nonazotic ingredients. Of the original nutritious substances of the barley, there remain in the malt grains the greater part of the azotic substances, the smaller part of the nonazotic extracts, nearly the whole quantity of fat and ligneous fiber, and the greater part of the nutritive salts.

The beer grains are a fodder rich in protein and fat, the amount of protein therein contained being, for instance, double that of barley. Dried grains are a favorite fodder which has proved itself to be most useful for fattening purposes as well as in the dairy. They are given a decided preference over wet grains, as the latter, owing to the great quantity of water they contain (about 80 per cent) are apt to spoil. Fresh or wet grains are distinguished by an agreeable and aromatic smell, but in the course of a few days the formation of acetic acid gives them a sour smell and taste, which, in the rapid decomposition, grow constantly stronger. During this acetic process, in the course of which mold also collects on the grains, they lose in nutritive qualities, in taste, and in wholesomeness. Some grains are a source of danger to the animals, and, through their milk, the danger extends to human beings, particularly to children. The injurious effect of acetic acid in the fodder is readily apparent in milch cows and hogs. Cows decrease in fat, and their milk and butter acquire a bad taste. It is hard, too, to keep the butter.

All the disadvantages which result from feeding wet grains can be removed only by drying the latter. In this process, the large quantities of water, the direct cause of the rapid fermentation, are eliminated. Numerous experiments have been made since the seventies, and a more perfect system has been found by which the wet grains are transformed into a dry merchandise, containing 10 per cent of water, without loss of nutritive substances, of digestive properties, or any of the other good qualities claimed for fresh beer grains. In this way, an article is obtained which, compared with the wet grains, possesses the following valuable advantages:

The grains, through the drying process, are not only deprived of their large quantities of water, but are concentrated to such an extent that they can stand transportation to the most distant points. They are prevented from spoiling and are transformed into a healthful fodder, which, without endangering any of its good qualities, can be stored for a considerable time. They can be used for more purposes than wet ones. While the latter can only be fed to cattle and swine, and not to horses and sheep, the dried grains are appropriate fodder for all classes of cattle. The animals are spared the necessity of taking large quantities of water. The nutritive properties have, of course, increased with the elimination of the water. The grains, according to Dietrich and König, contain about as follows, on the average of one hundred and sixty analyses:

Description.	Protein.	Fat.	Carbohydrates.
	Per cent.	*Per cent.*	*Per cent.*
Wet	5	1.7	10.6
Dried	20.5	7	42.2

The latter, therefore, as far as nutritive properties are concerned, have four times the value of wet grains.

The drying of the fresh grains has particular influence upon the health of milch cattle fed with such grains. All the disadvantages observed in the feeding of wet grains, as far as the health of the animals and the quality of their milk and butter are concerned, are avoided by drying the grains.

The best way to feed the dried grains is to give them dry (or only dampened to avoid dust), mixed with chopped straw or with juicy food, such as potatoes, turnips, etc., in order to compel the animals to chew their food; in this way, the salivation of the food, so important to proper digestion, is obtained. Only in the feeding of swine is it best to soak the dried grains beforehand. The feeding of cows with grains not only has the advantage of adding to their flesh, but at the same time the secretion of their milk is considerably increased; abundant, healthful, and digestible milk is produced, particularly suitable for food for invalids and infants, and, of course, excellent for calves and sucking pigs. The butter made from such milk keeps well and has a good taste.

Draft and fattened oxen are given the grains dry or soaked and mixed with turnips, potatoes, etc. Sheep eat the dried grains greedily; they have a stimulating effect, so that the animals readily take the most meager and sour grasses if they have been given a small ration of the grains before being driven out into the meadows. The ewes furnish the lambs with abundant and digestible milk, and animals intended for fattening grow so rapidly that they have been known to gain as much as 55 pounds in two months. Given dry, the grains have a very good effect upon the growth of lambs, colts, and calves. Horses, whose aversion to new fodder is well known, easily accustom themselves to the fresh, aromatic flavor of the grains if small quantities are mixed dry with their food. Experience has shown that they then eat them willingly. About one-third of the ordinary ration is given as a substitute for oats or corn, whereby quite a saving is effected. The vitality of the animal is increased, and the appearance of such diseases as glanders, colic, and distemper is prevented.

Heretofore, grain and leguminous plants have been preferred; but a comparison between grain and "beer grains" (which are also a domestic product) will show that the latter, with their numerous and excellent ingredients, must necessarily be better as fodder. Oats contain only 17 per cent, rye only 13 per cent, barley also only 13 per cent, while dried beer grains contain from 28 to 30 per cent of protein and fat, and are decidedly more digestible than fresh grain. Every cattle raiser can obtain higher prices for his cattle, since he can furnish just what the dealers, butchers, and consumers require, *i. e.*, abundant, juicy, and fat meat.

Samples of beer grains are prepared by the breweries, which can be examined as to general quality and analyzed to ascertain the quantity of protein and fat therein contained. The conditions under which business is done are the following: Price per 2,240 pounds gross, including bags, c. i. f. Hamburg, 1 per cent guaranty of weight, net cash against documents (proper bill of lading and insurance certificate). The price of the goods per ton free on board United States or British ports depends entirely on the demands of the European consumers, upon which the whole traffic is based. Freights from New York, Baltimore, Philadelphia, Boston, etc., also vary considerably. Freight has been paid, for instance, from the interior via Baltimore to Hamburg at the rate of 24, 25, and 26 cents per 100 pounds; from Philadelphia, the same rate; while from New York to Hamburg it has been 17, 18, and 19 cents per 100 pounds. These rates are, however, entirely dependent upon the number of vessels in use.

Dried grains pay no duty in Germany, because the article can be used only as fodder. The sale of the same varies according to the price. Only the grains from which light beers are made can be used as food for cattle, those for dark beers being burned too much in the process of manufacture.

Germany, like England and other European countries, uses her entire supply as food for cattle. Our brewers should not be obliged to sell their beer grains for foreign export. They should be utilized by our own farmers, and it is believed that a market at home could be easily created for this article were our agricultural population to realize its actual worth. If Europe finds it a cheap food for cattle after paying ocean freights from America, commissions, etc., our own farmers ought certainly to be able to utilize it to greater advantage. It is certainly worth a fair trial by those who are constantly complaining of the scarcity and high price of food for farm animals.

W. HENRY ROBERTSON,
Consul.

HAMBURG, *March 12, 1897.*

A SCIENTIFIC TEST OF COKE-BURNING STOVES.

The use of coke, derived as a by-product from gas manufacture, for domestic heating and cooking purposes has now become so general in Germany as to invest the subject of coke-burning stoves with interest. The German National Association of Gas and Water Engineers has decided to hold at Berlin, in November of this year, an international prize contest, open to all approved stoves and heating furnaces that use gas coke as fuel.

The conditions which are encountered here are substantially similar to those which prevail in the United States. Coke made from gas coal is not only plentiful and cheap in all large towns and cities, but as it burns with almost no soot or smoke, it fulfills the two important requirements of economy and cleanliness. Smoke-burning devices of various kinds have been tried here, as in the United States, with bituminous coal; but for the most part they are only partially successful with furnaces and large fires, in which a high and constant temperature is developed, and fail entirely when applied to the small, irregular fires of an ordinary household.

During the past ten or fifteen years, Germany has imported, used, and copied assiduously base-burning stoves of American invention which are adapted to the use of anthracite coal. The best coke-burning stoves, meanwhile, have been of French origin, following more or less closely the original Choubersky type. The coming competition at Berlin will admit gas-coke burners of all patterns, either new or already fully tested by use, and the winners will receive premiums having an aggregate value of 5,000 marks ($1,190). For the information of American manufacturers who may desire to engage in this interesting contest, the following synopsis of the conditions to be observed are translated from the official prospectus of the society:

Before September 1, 1897, each intending exhibitor is required to send to the secretary of the association, Mr. C. Heidenreich, at No. 19 Thurmstrasse, Berlin, N. W., drawings and specifications of the heating apparatus that he wishes to exhibit. The description should be as full and precise as possible, and should show the form and principle of the device, the materials used in its construction, its size and weight, cost of manufacture in different sizes, and the average expense of setting up ready for use. These drawings and specifications will be submitted to the committee of award, which will decide which of all the exhibits offered shall be admitted to the competition. Such applicants as are thus approved will be notified to that effect and requested to send in their exhibits so as to reach Berlin not later than the 1st of November.

All expenses for the transportation of approved exhibits to and from Berlin and the cost of installation at the exhibition will be paid from the treasury of the association. Should, however, any contestant prefer to set up his own exhibits personally or through his own agent, he may do so; but in such case, he must pay the cost of such special installation.

The committee will have authority to decide all questions growing out of, or relating to, the competition, and stoves which receive prizes will remain the property of the exhibitor and be returned to him if desired.

The tests will cover as exhaustively as possible all points of effective utility, such as heating power, duration and uniformity of heating without supervision, capacity to burn coke of different sizes, prevention of dust and escape of gas, the degree to which fire may be reduced without danger of extinction; in short, every quality claimed as a merit in coke-burning heaters for household use. Especial attention will be paid to facility of kindling, easy removal of ashes and cinders, and especially to economy in respect to first cost of apparatus, the relation of fuel consumption to heat produced, and the labor of attendance during use. The judges will be H. Dreyschmidt, chemist of the city gas works at Berlin; L. Koerting, director of the gas works at Hanover; Dr. Fischer, professor at the Polytechnic School; Mr. Reichard, director of the city gas and water works at Carlsruhe; and Dr. Renk, professor of hygiene in the Technical College at Dresden.

The supremacy of American anthracite-burning stoves has long been established beyond controversy. Not only are they still exported in large numbers to this country, but there are in Germany a dozen or more large foundries which manufacture extensively heating stoves that are more or less close imitations of American models. Exhibits from the United States at the forthcoming competitive exposition will therefore enter the lists with a certain prestige, and if duly protected by imperial patents will find at the contest next November a ready and fertile opportunity to gain admission to the European market.

FRANK H. MASON,
Consul-General.

FRANKFORT, *April 21, 1897.*

GERMANY AND THE NEW TARIFF.

Germany just now is very much excited about the proposed new tariff for the United States. Her hopes to extend and increase her exports have been built on other rates than those reported. Reciprocity is regarded as the only way in which to keep commerce within safe and sure lines. Hopes are being expressed that commercial treaties may be made between the United States and the Empire. There are those who indulge in language that would be laughable were it not serious. Writers and speakers talk of Germany's import of more than 1,000,000 tons of grain and 800,000 tons of petroleum and millions of bales of cotton from our country in 1896, and try to argue that these might be bought elsewhere. Germany buys very little from us except natural products; nor would she buy these could she get them elsewhere as good and as cheap. She has greater fears of us in the future than of any one else. In South America are her great hopes for the future. Even there, we can win away from her all that she has earned if we make the right move in that direction.

Germany imported from the United States in 1896—

Articles.	Quantity.	Articles.	Quantity.
	Tons.		*Tons.*
Raw cotton	192,225	Benzine	3,178
Building and useful woods	119,100	Meats	14,237
Copper	42,540	Fine groceries	698
Oil cakes	94,351	Leather goods	334
Lard	84,643	Caoutchouc	172
Tallow	3,775	Lead	10,889
Animal products	3,791	Machinery	6,128
Stearin acids	2,210	Flour	75,583
Leaf tobacco	9,566	Skins	90,840
Cotton-seed oil	9,933		

Most of these, say German writers, are not taxed, or pay so small a duty that it plays no part in keeping them out. These writers do not seem to remember that legislative acts have done all they could to keep out our meat and grains. To appreciate this fact, one has only to run over a series of figures covering four or five years. She bought from us, in 1892, 136,129 tons of barley; in 1893, 18,194 tons; in 1894, 5,571 tons; in 1895, 3,060 tons; in 1896, 64,759 tons. Of wheat, she bought from us 630,213 tons in 1892; in 1893, 314,928 tons; in 1894, 323,498 tons; in 1895, 193,594 tons; in 1896, 266,875 tons. In those years, Russia sent: In 1892, rye, 122,337 tons; in 1893, 99,255 tons; in 1894, 533,450 tons; in 1895, 841,974 tons; in 1896, 787,971 tons. Wheat, in 1892, 257,300 tons; in 1893, only 21,636 tons; in 1894, after reducing duties from 5 marks to 3.50 marks ($1.19 to 83 cents), 280,594 tons; in 1895, 678,203 tons; in 1896, 852,465 tons.

It is hardly worth while to argue in the face of such facts. The figures tell their own tale. We have little to look for here in the way of permanent trade under such conditions. Our machines will be bought, taken apart, and successfully imitated, except when our manufacturers are wise enough to take out imperial patent rights. If our merchants and manufacturers make half the effort in Russia, South America, and the East that would be necessary in Germany, the returns will not only richly repay them, but they will be five times as profitable as the results here. It is not in the temper of these people to take our wares, only, as I say, to successfully imitate them. Many of the largest and most successful manufacturers in this district owe their fortunes and continued prosperity to American machines and American ideas. If proofs of this statement are wanted, I have them ready. Annual visits are made to the United States by skillful manufacturers to pick up ideas. One man here has grown rich on one idea picked up in this way. This man sails in ten days to see if he can find something else; nor is he to be blamed. Our inventions should be patented.

J. C. MONAGHAN,
CHEMNITZ, *April 8, 1897.* *Consul.*

GERMAN LABOR LEGISLATION.

The insurance bureau (Reichsversicherungsamt) of the German Empire has just published a pamphlet concerning the State insurance of German workingmen. This guide contains, in as brief a form as possible, everything worth knowing touching German labor legislation. The three branches of German workingmen's insurance, viz, sickness, accident, and old age, complement each other and form one compact whole. They form a new protection for the working classes, embracing, as they do, every workingman in event of assistance in the inevitable cases of emergency of modern life, and this protection can not remain without a beneficial influence upon the economical and social position of the German working classes.

Thus, from 1885 to 1895, 25,061,620 persons have, upon the strength of these laws, been paid claims for sickness and pensions amounting in all to $296,015,824. During the same time the employers contributed $230,798,596; the contributions of the workingmen amounted to $211,311,870, so that the latter received about $85,000,000 more in compensation than they paid in small subscriptions. Nearly $250,000 are employed every day in Germany for this kind of provision for the working classes.

The total population of the Empire is 52,000,000, of whom 13,000,000 are wage earners.

The following table, showing particulars of the workingmen's insurance in 1895 is exceedingly distinct and therefore the best illustration of what the German Empire has been doing for the insurance of its working population:

Description.	Insurance against—		
	Sickness.	Accidents.	Invalidity.
Number of persons insured	8,005,000	18,389,000	11,585,000
Number of persons having received payments	2,939,000	388,200	347,700
Receipts	$37,305,548.00	$21,166,934.00	$31,449,320.00
Employers' contributions	9,336,502.00	16,284,912.00	12,233,200.00
Workingmen's contributions	21,236,978.00		12,233,200.00
Expenditures	35,328,006.00	16,284,912.00	31,449,320.00
Claims paid	27,519,702.00	11,929,940.00	10,214,960.00
Cost of management	1,662,906.00	2,468,536.00	1,425,620.00
Balance on hand (total, 1885-1895)	31,573,556.00	34,129,200.00	98,532,000.00
Average of claims paid	9.35	30.70	28.80
Contributions of insured, per capita	3.81	.88	2.45

It is to be seen from the above that these are only the beginnings of an insurance of the working classes, but even these beginnings are of no small account, and there is no doubt that the efforts in this direction will be pushed further and thus the lot of the workingmen in Germany considerably improved.

In a country like Germany, where low wages allow but a small fraction of the laboring classes to put something by for a rainy day, a good deal is accomplished by this first attempt of state insurance, and one can not but agree with the author of the pamphlet in question in wishing, as he does in conclusion, that this new legislation for the working classes may soon be extended to the workingmen of other nations.

LOUIS STERN,
Commercial Agent.

BAMBERG, *May 18, 1897.*

TRADE METHODS IN RUSSIA.

Every inhabited country on the globe has its distinctive customs in regard to living, carrying on business, farming, laboring, using tools and machinery—in fact, in everything relating to human existence; consequently, if we move to a foreign country and desire to live as the natives do, we must accustom ourselves to their habits. If we desire to do business in foreign countries, we must study their requirements and peculiarities. If the manufacturer desires to sell his goods to such countries, he should first find out if his product is suitable; what is adapted to one part of the continent, may not suit the other, as is frequently seen in the case of tools, farming utensils, machinery, etc. The objections are generally unimportant and could be easily avoided if the manufacturer would send an intelligent practical mechanic to the country to find out what is desired by the people; and although changes on his machine that are demanded may not improve it or may seem simple and unpractical, yet the people want them and without them will not buy the article. A manufacturer or merchant will never succeed in his business by trying to force on people an article against their taste. The Germans, French, and English who sell goods to this country do it on the same principle that our manufacturers and wholesalers adopt at home. They send their agents to this country at least twice a year to call on the merchants personally with samples and find out just what is wanted. For example, I will cite a case which recently came to my personal knowledge. A party from the United States wrote to me for names of firms that would be likely to import American lamp goods. To send them simply the addresses desired, I was satisfied would not answer their purpose. I felt that they needed all obtainable information on the subject for their guidance; therefore, I called personally on some of the prominent lamp dealers in this city to ask particulars. I found that lamps are imported into Russia principally, and it can be said wholly, from Germany; that they are imported in pieces and pass the custom-houses as cast iron, metal, and the like; and that the glass parts are manufactured in Russia. One of the gentlemen said: "The Germans send their agents here with samples and catalogues, from which we buy, or, if we desire any special shape, they make it for us." An agent told me that one of his employers spent four years in the United States to gain a practical knowledge of everything connected with the manufacture of lamps, and added that he learned many things of advantage to his firm, not only in the manufacture of lamps, but also in the conduct of business. When I asked him how often he visits this country on business, he answered: "The territory I have to travel in does not permit me to do it oftener than twice a year; from here I must go to Italy."

If our people would adopt the same methods, I am satisfied they could materially increase their foreign business. It makes a great deal of difference in trade whether a merchant is expected to buy his goods from catalogues sent by mail or from a man who comes with samples and is an expert in exhibiting them and explaining their advantages. An agent could travel in two or three European countries; to call twice a year on their customers would be sufficient. Of course, this refers mainly to manufactured articles.

The principal articles imported into Russia from the United States at present are: Various machines; farming implements and machinery; hand utensils for different trades; articles of steel, iron, and cast iron; bicycles; tanning materials not crumbed; vegetable dyestuffs, raw cotton, copper, rosin, etc.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *April 19, 1897.*

SWISS MARKET FOR UNITED STATES PRODUCTS.

The following is a copy of a letter from Consul Germain to W. P. Wilson, director of the Philadelphia Museums, Philadelphia, Pa., in answer to a request for information about several classes of trade:

Your favor of recent date acknowledging the receipt of my report through the Department of State and covering a new set of blanks to be filled out has been duly received.

For your kind words of commendation, please accept my thanks and acknowledgment of my appreciation. My aim is to stimulate our export trade, and I am willing to exert my best efforts to gain that end.

I think that if you would give consuls some points as to the volume of production in the United States of articles in regard to which information is wanted, quantity exported, possible prices, delivered alongside wharf to ports adjacent to the particular consular posts, it would facilitate and help inquiries and, I am sure, bring better results, for consuls, as a rule, are not experts in all the lines of American manufacture.

I will, however, try, through the good offices of the Department of State, to report on the articles you name, excepting those lines covered by my former report. The import and export statistics for 1896 will not be published before July 1; hence figures for 1896 are necessarily omitted, but I know they will show great gains in bicycles, iron, and other articles.

Zurich has a population of 153,000, is the largest commercial and distributing center of Switzerland, is the seat of the silk and cotton industries, and the annual exports and the sales transacted here reach millions. This city is the distributing point for Switzerland and adjacent countries.

CARPETS.

No carpets are manufactured in Switzerland, although the sale of this article is increasing every year. The supply is drawn from Germany, England, France, and Belgium, with a few moquette carpets introduced through the European agent of Sloan & Co., New York, a resident of Stuttgart, Germany. Carpets are also used to a great extent for upholstering furniture of all descriptions, and if American manufacturers in that line would send an agent abroad, supplied with a full line of samples, to solicit trade in the different European countries, I believe quite a business could be worked up. He should be well posted as to freights, the metric system, and the currencies of the different countries he visits, so as to enable him to name delivered prices. If possible, he should be able to speak the language of the countries he intends to canvass. English, French, German, and Italian, however, will, in my opinion, suffice throughout Europe.

See my report on carpets in CONSULAR REPORTS NO. 175 (April, 1895), p. 585, which gives some information on the subject. The situation is unchanged, but I will add the following items:

Imports of carpets during the years 1894 and 1895.

Description.	1894.	1895.
Coarse woolen carpets without fringes, no velvet-like weaving	$20,520	$20,520
Other woolen carpets, velvet-like weavings, cut or not cut, fringed, etc	496,694	534,358
Mohair carpets of animal hair	31,450	24,500

The imports from the United States in 1895 amounted to $3,210. For all other points, see above-named report.

CAST-IRON PIPES.

All dimensions are used in this country for gas and water mains, as well as for other subterranean conduits. Some few are manufactured in Switzerland, but the majority are supplied by Germany and France. No separate import figures are obtainable in that particular line. They are included in another category. The import duty is 2.50 francs (48.3 cents) per 220 pounds. Dealers in Zurich are Baer & Co., Knechtli & Co., Pestalozzi Bros. & Co., Henry Schoch, and Jul. Schoch & Co.

ENAMELED HOLLOW WARE.

Customs duty, 22 francs ($4.24) per 220 pounds. This line is nearly all supplied by Germany. The total imports for 1895 were 259 tons, worth $116,480. None were imported from the United States. The article is popular, in good demand, and sells well, and there is a chance for the introduction of the American article if it is able to meet competition.

BLANKETS.

Customs duty: Plain woolen, 25 francs ($4.82) per 220 pounds; fancy woolen or of animal hair, hemmed or fringed, 60 francs ($11.58). Imports for 1895 were: First class, 120 tons, valued at $95,920; second class, 16 tons, valued at $22,400. There is but one small blanket and carpet factory in Switzerland, situated at La Sarraz, canton of Vaud, working up shoddy, artificial wool, and animal hair, and producing a cheap article exclusively for export.

This being a cold country, and American blankets, especially Californian, being as good as, if not better than, any produced, it becomes evident that there may be an opening here. Blankets, however, are not in general use for bed covers as in America, feather covers being preferred in winter, while blankets take their place to a great extent during the summer months. Single blankets for single beds are mostly on sale, double beds not being popular here. A good many blankets are also used by travelers and tourists during the winter months as foot covers. Dealers are the same as for carpets.

DYNAMITE AND OTHER EXPLOSIVES.

The manufacture of dynamite in Switzerland owes its origin to the building of the St. Gotthard Railway and the piercing of the St. Gotthard Tunnel. A factory (Dynamite Nobel) was established at Isleten, on the Lake of the Four Cantons, in the vicinity of the tunnel, just prior to the commencement of active work (1872). This factory employs from ninety to one hundred hands, two chemists, and eight clerical employees, and runs three boilers and motors of a total capacity of 50 horsepower. The average annual production was 325,000 kilograms (1 kilogram = 2.2046 pounds), valued at 1,300,000 francs ($250,900) for the period from 1872 to 1882, but the capacity of production has been increased since that time. This factory supplied the St. Gotthard Railroad Company and part of the local demand as well. After the completion of the tunnel, however, the concern had to look for an extended local as well as foreign market, which it still supplies. It is impossible to get the exact export figures on the article, because it is placed in the category of "dynamite and other explosives and gunpowder."

The duty on these articles is 50 francs ($9.65) per 100 kilograms (220.46 pounds). The total imports for 1895 were only 24 tons, worth $8,262, of which 1 ton came from the United States. The total exports for the same period were 32 tons, valued at $18,745.

The piercing of the Simplon Tunnel, which is to be started in the near future, will give a renewed impetus to the dynamite trade, as large quantities will be consumed in this great undertaking.

ANILINE DYES.

Switzerland produces great quantities of aniline colors in excess of local requirements, and is exporting them to all parts of the world. The headquarters of production are Basle and vicinity; there is also a factory near Geneva. This industry employs many hands. The most important dyes manufactured are: Fuchsin, aniline blue, aniline violet, indulin, malchitsgreen, methylen blue, safranin. The Swiss consumption of aniline for the manufacture of aniline dyes is about 7,000 metric centals (15,432 pounds) per annum.

Imports of aniline dyes into Switzerland for 1895 were 243 tons, worth $364,800, while the exports amounted to 2,476 tons, worth $2,919,568, of which 483 tons, worth $436,428, went to the United States, with no imports from that source.

ACIDS.

This is too broad a denomination, and in Swiss statistics, acids are not separated from chemicals and preparations thereof. If you will name the particular acids on which you wish information, I will try to get facts and figures as to manufacture, imports, and exports. From statistics at hand, however, I glean that Switzerland imports large quantities of acids from Germany and France, but principally from the first-named country, which supplies muriatic, sulphuric, arsenic, nitric, citric, boratic, carbonic acids, etc.

Switzerland exported $71,400 worth of some special kinds to the United States in 1895. Imports from the United States are not worth mention, and I doubt if an attempt at competition with Germany would be successful. If you will post me as to what we produce and can do in that line, naming kinds and prices and ocean freight rates, I will look carefully into it and report promptly.

Dealers in acids are Finsler, im Meiershof; Aug. Etter, Stampfenbachstrasse; Egli & Co., Kirchgasse; and Georg Scheffer—all in Zurich.

GINGHAMS.

The manufacture of this article was introduced in the Toggenburg, canton of St. Gall, in the latter part of the second decade of this century and proved an important industry. Switzerland for a long period exported the article to southern Europe and North and South America in large quantities; but the demand, owing to the steadily increasing competition, has greatly decreased. Switzerland supplies nearly all of her home demand, importing, however, small quantities from Germany. No separate import or export figures are given, this line coming under the head of cotton textiles.

Switzerland's exports to the United States of all cotton textiles in 1895 amounted to 2,209 tons, valued at $7,843,034. There were no imports from the United States.

CHEWING GUM.

This is exclusively an American article, not used anywhere outside the country of its origin, but is found in a small way in some of the Swiss drug stores catering to the trade of American tourists. The Swiss will never chew rubber, as they call it.

AXES, TACKS, BOLTS, AND NUTS.

American manufactures are in the market and are well spoken of. To what extent they are used I am unable to learn, since they are included under other headings (manufactures of iron, etc.). Germany is supplying the bulk of the demand, and there is a good unexplored field open to Americans in this line. (See Consul Kemmler's report, CONSULAR REPORTS No. 177, June, 1895, p. 344.)

ICE MACHINES AND REFRIGERATING MACHINERY.

This line is being manufactured principally by the firm of Escher, Wyss & Co., Zurich, and Sulzer Bros., Winterthur, two of the largest manufacturing concerns in Switzerland. They supply most of the Swiss requirements. The rest comes from Germany and France.

Machinery for bookbinders, tinners, sheet-metal works, dies, etc., come under the head of machinery, hence no special statistics are obtainable; but I do know that a bookbinder in Thun imported a few machines from Brooklyn, N. Y., and is well pleased with them. There is a good field for all classes of American machinery and tools, but then it must be thoroughly canvassed by men well posted in their particular lines. American tools, wood and iron working machinery, as well as typesetting machines, have been imported for trial and give good satisfaction; but, in order to obtain permanent foothold, competent men must be sent over to keep hammering at the trade. I am positive that, with proper personal efforts, orders can be secured. To attempt to obtain business by correspondence, except in the world's staples which are sought after according to the supply and demand and are regulated by the success or failure of crops in the different countries, will be found uphill work, and I fear will be a waste of effort and postage.

Customs duties on articles named below are as follows, per 220 pounds: Axes, 10 to 12 francs ($1.93 to $2.32), according to finish; tacks, 12 francs ($2.32); bolts and nuts, 12 francs ($2.32); axles for carriages, 10 to 12 francs ($1.93 to $2.32); axles for railroad cars, 4 francs (77.2 cents).

Dealers in these articles are Jul. Schoch & Co., Knechtli & Co., Woernle Bros.; A. Bannwart, Assersihl; Geor. Pestalozzi & Co.; Ernst Schoch, Raemistrasse; Roetschi & Meier, Baer & Co., Faeh & Schoch; G. Landolt, Sihlstrasse—all in Zurich.

Names of bookbinders are Paul Carpentier, Vorbrodt Carpentier, Hug Bros. & Co., Naegeli Weidmann & Co., Ad. Lonbauer; Fretz Bros., Schipfe; Wilh. Pfister, Pelikanstrasse—all in Zurich.

Metal works are: Diener & Co., Escher Wyss Actiengesellschaft, Hans Schwarz & Co., Armaturenfabrik, in Zurich; Sulzer Bros., Winterthur; Martini & Co., Frauenfeld; Schweiz Industriegesellschaft, Neuhausen; Schweiz Metallurgische Gesellschaft, Neuhausen.

FREIGHTS.

The nearest seaports to Switzerland are Antwerp (Belgium) and Genoa (Italy). The classified freight tariff on goods bound via Antwerp to Swiss points is published in my general report dated June 2, 1894, in CONSULAR REPORTS No. 172 (January, 1895), p. 66, and rates from Genoa on same lines in CONSULAR REPORTS No. 188 (May, 1896), p. 77, both unchanged. Ocean rates vary widely according to season and demand for tonnage, and these are more easily obtainable in the United States. At times, inland railroad companies have special arrangements with transatlantic lines, and give through rail and ocean rates to destination.

For heavy goods, such as machinery, implements, lumber, wheat, flour, cotton, iron, etc., the best route in summer, while navigation is open on the Rhine, is via Rotterdam, whence rates can be secured on steamer to Mannheim or Strasburg, thence by rail. These will be cheaper than all-rail rates given in the tariff above referred to.

Regarding the general lines of American products and manufactures which, in my opinion, could be introduced in Switzerland, I would state that I have reported, more or less in detail, on almost every possible article I could think of, and if you will take the trouble to look up my reports, beginning with the latter part of 1894 and all of 1895 and 1896 to date, you may find just the information your association or your members continually require.

EUGENE GERMAIN,
Consul.

ZURICH, *March 10, 1897.*

EXPORTS FROM PALERMO TO THE UNITED STATES.

I inclose tables showing the value of declared exports from this port to the United States during the months of March, 1896 and 1897.

Of the seventeen vessels to clear from this port for the United States during March, 1897, twelve were for New York, two for Boston, one for New Orleans, one for Baltimore, and one for Philadelphia; and of the twelve to clear during March, 1896, eight were for New York, two for Boston, one for New Orleans, and one for Baltimore.

During March, 1897, there were six vessels to clear from this port for England, six for Germany, three for Holland, and one for Belgium. The tonnage of these vessels is about half that of the vessels clearing from this port for the United States.

Value of declared exports from Palermo, Italy, to the United States during the months of March, 1896 and 1897.

Articles.	1897.	1896.
Almonds	$2,017.04	
Argols, crude	4,603.50	
Brimstone	29,498.40	
Citrate of lime	2,698.62	$10,652.82
Essence	4,094.41	
Human hair	1,750.00	
Lemons	264,692.53	322,693.98
Macaroni	4,018.00	5,691.95
Oranges	68,652.08	65,563.13
Soap stock	3,319.40	
Sumac	48,466.68	17,560.49
Miscellaneous	3,488.47	2,072.82
Total	437,299.13	424,235.19

WILLIAM H. SEYMOUR,
Consul.

PALERMO, *April 15, 1897.*

TELEGRAPH SYSTEM OF GREECE.

I inclose information requested by the University of Wisconsin on the subject of the telegraph system of Greece.*

Net of wires.—Length of lines of entire net, 8,156 kilometers (5,068 miles); development of conducting wires, 9,660 kilometers (6,003 miles); number of offices, 198.

---

* Copy of letter was sent to the University of Wisconsin, May 12, 1897.

Equipment.—Number of apparatus: Morse system, 278; Hughes's system, 2; other systems, 8.

Personnel.—Central administration, 18; employees of offices, 443; subordinate personnel, 454.

Telegrams.—Internal system: Paid, 750,406; unpaid, 191,159; total, 941,565. International system: Sent abroad, 94,727; received from abroad; 138,491; sent across frontier, 273,955; total, 507,173; telegrams of the service, 155; grand total of telegrams, 1,448,893.

Receipts.—Net income from internal correspondence, 1,183,783 francs ($228,471); net income from foreign correspondence, 923,681 francs ($178,264); total, 2,107,464 francs ($406,735).

Expenses.—The postal and telegraphic expenses can not be separated. They amount to a total of 3,040,891 francs ($586,891). In the interior, press rates are the same as ordinary rates. The land lines and the greater part of the interior cables are owned by the Government.

Rates.—For the interior, minimum of seven words, only two of which are text, 50 lepta (about 6 cents). If more than two words are text, any number up to fifteen words, inclusive, 1 drachma (about 12 cents); over fifteen words, 5 lepta (about sixth-tenths of a cent) per word. The above rates are in paper money, which is depreciated. To-day (April 20, 1897), 1 franc=1.71 drachmas.

As to whether ownership of the postal telegraph by the Government is a success or not in Greece, I have only to say that it does not pay interest on the money invested. Whether it is a success or not from the public standpoint, can be judged from the table of rates.

GEORGE HORTON,
Consul.

ATHENS, *April 20, 1897.*

SARDINES IN GALICIA.

In reply to inquiries made by Messrs. Edward F. Russell & Co., Boston, Mass., concerning the method employed in Galicia for packing sardines, the following information has been sent:

The packing factories are situated close to the seashore, whence large baskets, holding 1,000 sardines each, are brought in and tipped over a wide board. The sardines of each basket are immediately and thoroughly mixed with about 25 pounds of salt, and then shoveled into a capacious stone receptacle, carefully cemented in order to prevent the escape of brine. Some factories possess twenty receptacles. They measure about 10 feet square and about 5 feet deep, and can hold 200,000 sardines.

As the sardines fall into the receptacles, more salt is added to them, enough to form, when melted, a thick fluid. They remain floating in a compact mass for twelve days at least, after which they may be prepared for immediate consumption. But they keep well in that state for three or four months.

With long wooden shovels, very carefully handled, the fish are drawn out from the receptacles and spread on a long table, where they are quickly sorted by some twenty or thirty women. The classes are: First, large, scaly; second, large, without scales; third, middling, scaly; fourth, middling, without scales; fifth, small.

When the sorting is over, large tubs filled with sea water are ready for the following operation: An operator passes a short stick through the gills and mouth of twenty sardines; then, holding four or five of those sticks by both ends, he dips the sardines several times into the water and finally passes them over to the packers, who arrange the fish in kegs.

The quantity of sardines placed in each keg exceeds by about 4 inches the height of the keg. The staves of these vessels are not made to fit tightly together, so that all superfluous brine, oil, or grease may pass out through the slits while the pressing is done. When the contents of a keg are sufficiently pressed, the vessel is closed, and the whole process is at an end.

Such is the method uniformly employed in all the packing factories of Galicia. If their goods are superior in some respects, especially in flavor, to those prepared elsewhere, it is not due to any secret process, but to the peculiar quality of the sardines that are found all along this coast. They attain perfection in October, November, and the first part of December.

About two hundred and fifty factories are engaged in this trade, and the value of their products exceeds $1,000,000 per annum.

Packed sardines are sold by the thousand. The average prices are: First class, 12.50 pesetas ($2.41); second class, 10.50 pesetas ($2.02); third class, 10 pesetas ($1.93); fourth class, 8 pesetas ($1.54). The fifth class is little sold.

Some years ago France was a great consumer of this commodity; but since the rise of duties from 5 francs to 30 francs (96 cents to $5.80) per 100 kilograms (220.46 pounds), that market is closed. Large quantities are exported to Italy and South America.

JULIO HARMONY,
Consul.

CORUNNA, *April 26, 1897.*

WIRE-ROPE INDUSTRY OF RUSSIA.

At the request of a manufacturer of Worcester, Mass., the consular officers in Russia were requested to report on the wire-rope industry. Reports have been received from Moscow, Riga, and St. Petersburg.

Consul Billhardt, of Moscow, writes:

Statistics as to production, consumption, and import are probably not furnished; at least, I am unable to obtain figures, but I am credibly informed that the manufacture of wire rope in this country is in an undeveloped state and the product unsatisfactory.

While no firm in Russia makes a specialty of the manufacture of wire rope, five or six parties are more or less engaged in its fabrication. One of these factories is located near Moscow, under the name of the Moscow Metal Works. Its annual output is not more than 150,000 pounds. Another factory is conducted at Kielce, by Mr. Deixel, of Warsaw, and I am informed that wire rope is made in Riga, St. Petersburg, and at a place near Perm. All treat the industry as unimportant and it furnishes to the market only small quantities of an inferior article. The principal objection to it is its brittleness, due to the use of homemade iron, instead of steel wire.

It is chiefly employed for mining purposes, on ships and boats to be towed on the Volga River, for elevators, electric cars, and for other purposes where hemp ropes have been discarded. There are very few electric roads in Russia, and its use in this line is accordingly limited.

Copper wire rope, used, for instance, in the construction of electric cable, can not be profitably imported, on account of the high duty.

The main supply of steel wire rope is obtained from England, which is said to furnish the article at the lowest rates. Only a small quantity comes from Germany and Belgium. The firm of Velten & Guilleaume, in Cologne, furnish some of the goods to Moscow merchants. This merchandise is mostly imported through Gustav Liszt, on Miasnitzky street, Moscow.

The average price for all sizes of wire rope used is 1 ruble* for 7 feet.

Consul Bornholdt, of Riga, says:

The most important factory of wire and wire products in Riga is the Riga Wire Manufactory. It was established in 1873, and works with engines of 700 horsepower and employs about 350 men. The yearly output of wire products—rope, nails, etc.—is valued at $650,000.

---

* In CONSULAR REPORTS No. 201 (June, 1897), p. 187, Consul Chambers of Batum, estimates the ruble at 53 cents.

Wire rope is mostly used here for fastening telegraph poles, riggings on ships, hawsers, etc.; but, owing to the cheapness of hemp cordage in this country, the demand for wire rope is not great, and the factory here can supply more than it can sell.

The Riga manufactory supplies principally the oil region of Baku, in Caucasus, and other places around the Caspian Sea. None is exported.

The report from Consul-General Karel, of St. Petersburg, is as follows:

The wire-rope industry in Russia is very little developed and can not as yet be regarded as firmly established, although wire ropes and wire cables are more and more in demand. There are no separate official figures, either as to the output, consumption, or import—it is generally included with other articles—consequently, figures given in this report have been obtained only through the courtesy of manufacturers and business men interested in that line. Wire ropes and cables are manufactured at Cronstadt, Moscow, Riga, St. Petersburg, and in the government of Riazan, at the so-called Istinsk factory. The yearly output, as near as I was able to ascertain, is: Riga, about 1,100 tons; St. Petersburg, 275 tons; Istinsk, 40 tons. The Cronstadt factory fills orders only from the Ministry of Marine, and no figures are given. The Moscow works manufacture copper cable for electric transmission. None of it is exported, but all is consumed in Russia. It is used principally for marine purposes, in the mines in southern Russia, the Ural, and in the naphtha-producing districts. The Cronstadt plant, which is owned by the Government, manufactures nearly all wire ropes used by the Russian navy. This plant was destroyed by fire a short time ago, and I have been informed that it will be rebuilt and fitted with the latest improved machinery. The duty on wire rope, as will be seen further on, is so high that it must be called prohibitive when the market price is considered. There is very little prospect for the United States, or any other foreign country, to sell wire rope to Russia, unless it be a quality which the Russian manufacturers can not make so well, or one that has special advantages.

Electric cable covered with fine wire is imported from Germany, principally from Mülheim. There is no special tariff on wire rope mentioned in the customs tariff law of Russia, but the same is taxed according to the duty levied on manufactures of wire under paragraph 156, which reads:

> On manufactures of wire of iron or steel: (*a*) On all kinds, except those specially mentioned, 3.20 rubles in gold (amounting to 4.80 in credit rubles) per pood ($2.47 per 36.112 pounds, or $135.85 per ton). Fishhooks, barbed iron wire coated with zinc, and chains of iron wire, whether finished by smith's work or not, are also taxed according to this paragraph.

During the last three years, the total import under this paragraph was as follows:

Year.	Quantity.		Value.	
	Poods.	*Tons.*	*Rubles.**	
1893	34,000	614	464,000	$238,960
1894	48,000	866⅔	559,000	287,885
1895	51,000	920⅔	663,000	341,000

* Credit rubles.

During the first four months in the year 1896—*i. e.*, from January 1 to May 1—the import amounted to 29,000 poods (523⅔ tons), valued at 319,000 rubles ($164,285).

The prices range as follows:

Wire ropes consisting of six threads, each with a hemp core and with one principal core of hemp.

Diameter of rope.	Diameter of wire.	Number of wire.	Weight of 100 feet (approximate).	Price per pood.*			
				Plain.		Covered with zinc.	
Mm.†	*Mm.*†		*Pounds.*	*Rubles.*‡		*Rubles.*‡	
10	1	42	23	11.50	$5.91	14.50	$7.45
12	1.2	42	33	11.30	5.80	14.00	7.19
14	1.4	42	45	11.00	5.65	13.50	6.93
16	1.6	42	59	10.50	5.39	12.80	6.57
18	1.6	48	68	10.30	5.29	12.60	6.47
20	1.8	48	86	10.10	5.19	12.30	6.32
22	1.8	54	97	10.00	5.14	12.20	6.27
24	1.8	60	109	9.90	5.08	12.10	6.21
26	2	60	134	9.60	4.93	11.70	6.01
28	2	66	150	9.30	4.78	11.40	5.85
30	2	72	166	9.00	4.62	11.00	5.65

* 1 pood=36.112 pounds. † 1 millimeter=0.0394 inch. ‡ 1 credit ruble=51.4 cents.

Ship wire ropes covered with zinc, consisting of six threads of seven wires and one hemp core.

Dimension.	Diameter.	Diameter of wire.	Weight of 100 feet (approximate).	Price per pood.	
Inches.	*Mm.*	*Mm.*	*Pounds.*	*Rubles.*	
1	8.1	0.9	18.5	11.50	$5.91
1¼	10	1.1	28	10.50	5.39
1½	11.7	1.3	39	10.00	5.14
1¾	14	1.55	56	9.60	5.08
2	15.8	1.75	70	9.40	4.83
2¼	18	2	92	9.20	4.72
2½	19.8	2.2	112	9.00	4.62
2¾	22	2.45	140	8.80	4.52
3	24.3	2.7	170	8.60	4.42
3½	27.9	3.1	225	8.40	4.32
4	32.4	3.6	300	8.20	4.21

For dimensions without the hemp core, *i. e.*, of seven threads of seven wires, each weighing about one-sixteenth more, the prices are as above.

Description.	Diameter.	Diameter of wire.	Weight of 100 feet (approximate).	Price per pood.	
	Mm.	*Mm.*	*Pounds.*	*Rubles.*	
7-wire thread covered with zinc for semaphores...	4.5	1.6	7.4	8.00	$4.11
	5	1.8	10	7.40	3.80
	6	2	12.9	6.70	3.44
	6.5	2.2	16.3	6.20	3.18
	7.2	2.4	19.4	6.10	3.13
	7.5	2.5	21.1	6.00	3.08
2-wire fence, covered with zinc, with double spines:					
5 inches distance...	4.4	2.2	5.2	7.50	3.86
	5	2.5	6.4	7.20	3.70
	5.6	2.8	7.9	7.00	3.59
1½ inches distance...	4.4	2.2	6.1	7.80	4.00
	5	2.5	7.3	7.50	3.86
Copper lightning-rod ropes..................................	6.5	2.2	18.16	24.00	12.33
	7.5	2.5	24	23.00	10.72
	9	3	34.7	22.50	11.56
	10.5	3.5	47.1	22.00	11.30

It can not be denied that the high tariff and the strong competition of the hemp-rope industry, which is of extra good quality and cheap in Russia, and the high prices of copper wire are retarding the general progress of the wire-rope manufacture here. The wire-rope trade in Russia can be gained only in one way, and that is by manufacturing the wire ropes and wire cables in this country.

The wire industry being the foundation of the wire-rope industry, I shall mention a few facts regarding it. The development of the wire industry in Russia dates back to the forties. In 1863, the right of importing iron duty free, granted to machine-building factories, was extended to the wire mills as well. It brought about the establishment of independent wire mills, which used foreign iron exclusively. This franchise ceased in 1881, and a duty of 1.10 rubles in gold per pood (85 cents per 36.112 pounds) was placed in 1882 on all kinds of rod iron less than half an inch in diameter. In consequence of this measure, the position of the wire mills became uncertain. On the other hand, the iron manufacturers, in favor of whom this high duty was levied, began to fit out their factories with a new series of rolling machines, raising in the meantime the price of the small rod iron. This advance was felt by the German manufacturers, who were almost the only contributors of that kind of iron to the Russian wire mills. Not wishing to lose a good market, some of the large firms organized branch factories in Russia on the western frontier and on the shores of the Baltic, furnishing them with the latest machinery. These new manufactories, owing to their excellent equipment, soon began to supply the interior market with quantities of rod iron at extremely low prices, so that the Russian manufacturers in no way profited by the great increase in the duty on imported rod, but only aroused powerful and experienced competition in that specialty. The duty on wire is levied under paragraph 155, which reads:

> Wire of iron or steel: (*a*) Of thickness or diameter of from one-fourth of an inch up to No. 25, inclusive (Birmingham gauge), 1 ruble in gold per pood (77.2 cents, or $42.46 per ton); (*b*) exceeding No. 25 and up to No. 29, inclusive, 1.50 rubles ($1.16) per pood, or $63.80 per ton; (*c*) finer than No. 29, 2 rubles ($1.54) per pood, or $84.92 per ton,

The import under this paragraph (155) amounted, during the last three years, to the following:

Year.	Quantity.		Value.	
Wire from ¼ inch to No. 25, Birmingham gauge.	*Poods.*	*Tons.*	*Rubles.**	
1893	35,000	632	234,000	$125,145
1894	43,000	776½	275,000	141,625
1895	48,000	866⅔	300,000	154,500
Above No. 25 up to No. 29.				
1893	1,000	18	13,000	6,995
1894	1,000	18	16,000	8,240
1895	2,000	36	16,000	8,240
Finer than No. 29.				
1893	5,000	90¼	61,000	31,415
1894	7,000	126½	82,000	42,230
1895	5,000	90¼	69,000	35,535

* Credit rubles.

During the first four months of the year 1896, *i. e.*, from January 1 to May 1, the import amounted to:

Description.	Quantity.		Value.	
	Poods.	*Tons.*	*Rubles.*	
From ¼ inch to No. 25	17,000	307	115,000	$59,225
Finer than No. 29	2,000	36	28,000	14,420

PHYSICAL-TECHNICAL INSTITUTE OF GERMANY.

From the series of expert investigations that have been made during the past two years by English economists and commissioners to ascertain the underlying causes of Germany's rapid and ominous advance as a manufacturing nation, one definite conclusion has been convincingly drawn. This is that, putting aside all questions of protective duties, comparative wages, supply of native materials, etc., Germany, as an industrial nation, enjoys in two respects distinct advantages over Great Britain and every other European country. These are, first, the wide diffusion and high standard of technical and industrial education provided in this country; and, second, the liberal and intelligent support that is given by the imperial and various state governments to the development of theoretical science and the higher and more scientific forms of industrial enterprise.

In support of the latter of these propositions, and as an illustration of how far a moderate expenditure of money under governmental authority can be made to reach in the advancement of scientific investigation and the promotion of engineering and kindred enterprises, the Imperial Physical-Technical Institute at Charlottenburg-Berlin is cited as the highest existing example of its class and a model for the study and imitation of other governments which are seeking, as Germany has done since 1856, to prepare and equip their people for the industrial struggles of the future.

The introduction into Congress of a measure like the Hale engineering experiment station bill is a sign that in our own country the need of Government aid in this direction is recognized, and the following brief account of the plan and functions of the great parent institution at Charlottenburg is submitted as a contribution to a movement that has been already initiated.

The Physikalische-Technischen Reichsanstalt, to use its German official designation, was founded in 1887, mainly through the influence of the eminent electrician Werner von Siemens, who gave for the purchase of the site of the institute 500,000 marks ($119,000). The first president of the institution was the renowned physical scientist Professor von Helmholz, who has since been succeeded by Professor Dr. Kohlrausch.

The institution comprises two sections, as follows: The physical department, which has for its field the advancement of pure science, or, in the language of Professor Helmholz, "the fulfillment of scientific investigations which present a practical or theoretic interest and which involve the employment of methods, apparatus, and prolonged duration of study which are beyond the command of individual investigators or schools of instruction."

The second, or technical, section (Mechanisch-technische Versuchsanstalt) is under the chief direction of Prof. Dr. A. Martens, and has for its object "to develop the theoretical results acquired by the physical section, render them useful for practical purposes, to test and certify materials used in manufacture and engineering operations, and to rectify and attest, in accordance with established standards, instruments of measurement and precision."

The institute is governed by a board of eight directors appointed by the Imperial Government, and the working force includes about seventy persons, of whom thirty are expert engineers and other specialists and the remainder skilled artisans and workmen.

Through the courtesy of Professor Kohlrausch, this report is enabled to give in detail the construction and equipment account of each section of the institute:

I. Physical section.

1. Cost of site, gift of Herr von Siemens	$119,000.00
2. Buildings:	
(*a*) Observatory	92,106.00
(*b*) Engine and machinery house	11,900.00
(*c*) Laboratories	23,800.00
(*d*) President's residence	23,622.00
(*e*) Grading, paving, and planting grounds	2,492.33
(*f*) Paving half of adjacent streets	7,205.00
(*g*) Building for accumulator batteries	2,023.00
3. Decorations and furniture for *a*, *b*, and *c*, above	13,804.00
4. Machinery and instruments	19,589.78
Total	315,534.11

II. The technical section.

1. Cost of land for site	88,774.00
2. Buildings:	
(*a*) Main building	219,436.00
(*b*) Laboratory building	51,884.00
(*c*) Engine and machine house	42,840.00
(*d*) Residence building for officers	33,320.00
(*e*) Subsidiary buildings, outhouses, etc	82,824.00
(*f*) Furnishing *a*, *b*, and *c*, above	19,278.00
3. Machinery and instruments	86,557.98
Total	624,913.98

or an aggregate cost for sites, construction, and equipment of both sections of $940,448.09. The current expense of maintenance, including salaries, wages, materials, repairs, etc., which is partly repaid by fees collected for services rendered, amounts in all to $68,391 per annum.

To describe the work of the physical section of the Reichsanstalt would be to give a résumé of the scientific research of Germany during the past six years. At the spacious and admirably appointed institution at Charlottenburg, the savant, working out an original line of investigation, can find not only implements and materials which are beyond the resources of most investigators, but able and sympathetic assistance amid helpful and stimulating surroundings and an opportunity to test his work at each stage by constant comparison with the best results hitherto attained in the same field. As early as 1890, the Imperial Chancellor was able to lay before the Reichstag a memorial written by Dr. Helmholz summarizing the labors of the previous year, which, at that period, had been devoted in the physical section to the perfection of thermometers, to barometric observations, and to laying the foundations for the exhaustive study of electrical science which has since been continued with such valuable results.

The second, or technical, section is divided into subdepartments according to the nature of the work to be undertaken. One of these provides for the testing of metals, chains, cordage, belts, and woods; another is devoted to the investigation of building materials, such as natural and artificial stones, bricks, tiles, slates, timber, glass, lime, cement, mortars, pipes for water, gas, and sewerage; while a third department examines all forms of paper, textile fibers, and fabrics; and a fourth is assigned to the investigation of lubricants and illuminating oils, the chief of that subdepartment being recognized as the highest authority in Germany on that subject.

The equipment of these several departments of the technical section includes all the standard instruments used or recognized elsewhere as authoritative, and, besides, a large number of original devices and machines specially invented and constructed by officers of the institute for the particular operations with which they are charged. A description of machines and apparatus would lead into technicalities far beyond the scope of a consular report, and would, moreover, be unintelligible without the aid of illustrations; but a summary of the number in each department will give some idea of the completeness with which the technical section is equipped for its varied and important work:

(1) Department for testing metals, under direction of Prof. A. Martens. Here, the metal to be tested is put through every conceiv-

able operation—bent, stretched, crushed, punched, planed, chiseled, sheared, welded, cast, alloyed, polished, etched with acids, microscopically examined, chemically analyzed, and photographed in all aspects, many of these operations being performed repeatedly at different temperatures and in reflected or transmitted light. The whole study of a given metal is thus sometimes extended through months and even years, and the equipment for these processes includes forty-one separate machines, ranging in character from a dynamic engine with a tensile strain of 500 metric tons to the most delicate microscopic apparatus for studying the behavior of metallic fibers under various forms of physical stress.

(2) Department for testing building materials, under direction of Chief Engineer M. Gary. Here, every species of material used in building and engineering operations is crushed, stretched, analyzed, split, sawed, cut, polished, and subjected, when both wet and dry, to all temperatures; in short, to all the influences of deterioration, except prolonged time, that are encountered in actual use. For these purposes, twenty different machines are provided, and the tests applied to the various forms of cement and mortar occupy in some cases several years, during which a continuous record is kept of every phase and result developed under changing conditions of temperature and humidity.

(3) Department for the examination of paper, textile fabrics, yarns, and threads, under direction of Dr. W. Herzberg, chemist. This division includes fifteen machines and sets of apparatus for making every known test of textile fibers, fabrics, and all forms of paper. Its tests and decisions form the standards for the textile industries of Germany, and it has played an important part in the scientific development of that branch of industry that has brought such anxiety to Leeds, Manchester, Bradford, and Roubaix.

(4) Department for testing lubricating and illuminating oils, with reference to their lubricity, inflammability, luminosity, and power to protect metals from oxidation. This division is under direction of Dr. D. Holde, and contains eleven different sets of apparatus for testing oils, besides a complete chemical laboratory for their analysis.

All these departments and the services of their officers and employees are at the service of manufacturers, merchants, engineers, architects, or whoever wishes to obtain complete and exact knowledge concerning the qualities of any material that he may desire to use, purchase, or sell. Pamphlets of instruction are issued, containing minute directions as to how specimens of materials intended for examination shall be selected, packed, and forwarded to the institute. The fee charged for each examination and certificate depends upon the nature of the inquiry involved and the time and labor required to reach a complete result. For investigations which require a very long time, an advance deposit may be required, from which prescribed discounts are deducted under certain circumstances. Such obtained results as are of general interest are published in the organ of the institute, Zeitschrift für Instrumentenkunde, edited by Prof. Dr. St. Lindeck and printed by Julius Springer, at Berlin. Reprints of special reports are published from the Zeitschrift for general sale and distribution.

Another important function of the institute is the testing and sealing of instruments of measurement and precision for private persons, universities, municipalities, and especially for the local testing stations, of which there is one each at Frankfort, Munich, Magdeburg, Mülhausen, and Hamburg. In this, as in all other functions, it furnishes the ultimate standards of accuracy for the German Empire. The more important instruments used at the branch testing stations are usually sent to Charlottenburg once a year, where they are tested, adjusted, and stamped with the imperial seal, which is the mark and certificate of standard accuracy.

To illustrate the importance of this service, it may be stated that there were tested and certified at the institute during the ten months from April 1, 1895, to February 1, 1896, 9,780 thermometers, 98 instruments for testing petroleum, 576 alloys of metals, 16 spring manometers, and 20 barometers. Out of all of these, 848 instruments were condemned as untrustworthy, 36 were found to have been fatally injured in transit to the institute, 31 were spoiled during the tests, and the remainder were approved and certified.

One of the most interesting features of the whole system is found in the results demonstrated by tests of chains, cables, screws, springs, and other articles of manufacture. As an instance of this, a firm at Neuwied which manufactures steam hoisting apparatus submitted in 1895 a lot of sixty iron and steel chains of different sizes and variously formed links. The tests in this case occupied several months, and the report thereon forms a standard treatise on the strength and endurance of chain links of different metals in various forms and sizes under all probable conditions of temperature, friction, and strain.

In view of the important and far-reaching influence of the institute at Charlottenburg upon the scientific and industrial progress of Germany, it should not be too much to hope for that the Government of the United States, representing, as it does, a people so alert and deeply interested in scientific and industrial progress, may find in the admirable institution herein described a suggestion and inspiration toward a similar enterprise. As competition in manufacture for export becomes more keen and determined, exact and definitely attested standards in materials become more and more important, and the engineers and scientists of our country would gladly welcome and utilize such an institution as the means of keeping abreast of their foremost competitors in Europe. For the information of specialists who may be interested in the work of the Reichsanstalt, there are appended as exhibits with this report the following publications (in German) issued from its press:*

(1) Regulations for the employment of the Mechanical-Technical Testing Institute, with catalogue of the tests applied and apparatus used in each department.

(2) Treatise on the inequalities, magnetic homogeneity, and annealing properties of iron and steel.

(3) Tests and investigations of rotary motion in machinery.

(4) Resistance in electrical conductors.

(5) Process for the testing of mechanical screws.

(6) Tests of the Hefner lamp.

(7) Regulations for testing and certification of thermometers.

(8) Report of tests of electrical measuring instruments.

(9) A compensating apparatus for measuring the tension of electrical currents.

(10) Résumé of the work of the Physical-Technical Institute from April 1, 1895, to February 1, 1896.

(11) Record and regulations for ignition tests of petroleum by the Abel method and apparatus.

(12) Regulations for the testing of tuning forks.

Of all public expenditures in Germany, none are more liberal, more willingly paid, or more wisely dispensed than those which are devoted to the cause of public education and the advancement of science. The universities, the technical and trade schools, are on a scale and of a character not yet attained by those of any other nation, and as such they are the foundation and safeguards of the national prosperity. For every reichsmark expended on an institution like the Reichsanstalt at Charlottenburg, the people receive the rich dividends that come from supremacy in the physical sciences which exalt human industry and constitute the permanent wealth of nations.

FRANK H. MASON,
Consul-General.

FRANKFORT, *March 26, 1897.*

---

* Transmitted to Prof. W. S. Aldrich, West Virginia University, Morgantown, W. Va., at whose instance this report was prepared, to be returned to the Bureau of Foreign Commerce, Department of State.

SILK TRADE OF TURIN.

I submit the following observations in reference to silk exportations, direct and indirect, to the United States from this consular district (Turin).

American importers, as a rule, are in the habit of buying European raw silk, also silk manufactures, the former at Milan, Italy, and much of the latter at Lyons, France.

French silks proper, partly on account of their irregularity of texture, partly on account of the inadequacy of supply, are not exported in large quantities to the United States. The silk manufactures sent to our country as French are, in reality, mostly of Italian origin. American buyers usually order their supply of raw silk in Milan. This, however, is principally a Piedmontese product. In this consular district, comprising the provinces of Turin, Novara, Alessandria, Ivrea, and Saluzzo, the production of cocoons is the most important in Italy, averaging 6,000,000 to 7,000,000 kilograms per annum (12,276,000 to 14,322,000 pounds). The quality of Piedmontese silks is the very best, a fact of which French, German, and English buyers are well aware. Notwithstanding the heavy duties levied on grège silks since 1889, the French manufacturers are compelled to purchase many of their styles in Turin; they can not be found elsewhere.

American importers can not be ignorant of the fact that when they buy Milanese raw silk or Milanese or Lyons manufactured silk, large quantities of the latter are shipped under different names and marks, which are adopted simply for the purpose of concealing their true origin, thus securing the commission merchant large profits on goods which not seldom are mixed and adulterated to the disadvantage and loss of American firms and their customers.

Direct communication between the principal business centers of the United States and Turin is no more limited than it used to be. Merchants here, though conservative and slow going, have of late become more enterprising; they probably have not yet become quite as pushing as their confrères at Milan, a city which, geographically, is more favorably located and offers more attractions to salesmen than quiet Turin.

Two or three large Milanese firms have established agencies in New York, and, although these firms draw pretty nearly all their supplies from Turin, their goods are imported into the United States under Milan invoices, thus making the American buyer pay double commission.

The oldest and most important Milanese silk houses have permanent agents residing here to buy in this market as cheaply as possible, thus realizing big profits for the Milanese firms. It is useless to repeat that all silk so bought is imported into the United States as Milan production.

During the past fiscal year only one New York house has bought raw silk in large quantities directly in this city, while no manufacture whatsoever has been invoiced from Turin.

There are old and responsible silk firms here only too glad to do business with the United States. Direct purchases in this market may be fought at the beginning by the Milanese interests, but I am sure that in the end, the practice would secure American importers larger profits, increasing the already steadily growing commercial relations between this consular district and the United States.

W. E. MANTIUS,

TURIN, *April 23, 1897.* *Consul.*

AGRICULTURAL IMPLEMENTS IN BULGARIA.

The following article is taken from the April number of the British Board of Trade Journal and deserves the widest circulation among, and the closest attention of, our American manufacturers. In a former report,* I called attention to this subject; but it does not seem that much notice was taken of far-off Bulgaria, which, however, offers a great opening for nearly everything. Now that the English are trying to win that market, Americans will perhaps also make efforts to introduce their goods. The Germans and French have already established themselves quite comfortably there.

A committee has been appointed in Bulgaria by the Ministry of Commerce and Agriculture to consider the subject of the introduction of agricultural machinery into that country.

Major Law, Her Majesty's commercial secretary at Vienna, in a memorandum received at the Foreign Office through Mr. F. Elliot, Her Majesty's agent and consul-general at Sofia, states that the conclusions of this committee appear likely to take practical form at an early date, and though it is not yet possible to announce the definite decision of the Government, it seems most probable that offers will be invited for the supply of a certain number of steam thrashing machines and portable engines, to be delivered this summer in various selected districts. The conditions for delivery and the terms of payment for the machines will be arranged with the Ministry of Agriculture.

It is particularly desired that the working of the machines shall not fall into ignorant hands, lest unsatisfactory results should render the farmers skeptical as to their practical value; and it is probable that the suppliers of the machines will be called upon to send a qualified mechanic to each of the selected districts and to provide a suitable assortment of reserve accessories, so that broken parts may be speedily repaired.

---

* Printed in CONSULAR REPORTS No. 179 (August, 1895), p. 638.

Should the proposals of the Bulgarian Government be carried out, a rare opportunity will be offered for the development of an important trade in a new market, and it would appear most advisable that English agricultural engineers should lose no time in furnishing information as to prices and descriptions of the machines they are prepared to supply.

It is useless to send ordinary English catalogues and price lists. What is required is illustrated description in French or German of 6, 8, and 10 horsepower portables and thrashers, with weights in metric measurement, prices (cost, insurance, and freight) at the ports of Bourgas and Varna, with discount allowances for cash, and terms required for delivery after receipt of order. To this should be added details concerning self-feeding and straw-burning apparatus, with prices for these extras, and information as to the fuel consumption per hour and average capacity of machines per working day of ten to twelve hours.

The information indicated should be supplied to the Minister of Commerce and Agriculture, Sofia.

Any firm which may be selected by the Bulgarian Government to supply the machines required must be prepared to promptly furnish necessary information and instructions for working their machines printed in the Bulgarian language.

THEODORE M. STEPHAN,
Consul.

ANNABERG, *April 23, 1897.*

NEW RAILROAD IN SIERRA LEONE.

On the 29th ultimo I received an official invitation from the governor, Colonel Cardew, C. M. G., to be present at the opening of the completed portion of the railroad from Freetown toward Wellington, say 7 miles, being the first railway opened in British West Africa. In mentioning this fact, however, I must not omit to state that the line is also being laid in sections from the landing place in Freetown (at which terminus large and commodious wharves are to be built out in the river, to enable steamers to discharge and receive cargoes) to Waterloo, a distance of 20 miles, or, say, two-thirds of the present proposed line to Songa Town, and this line (to Waterloo) is expected to be completed and opened to the public by June, 1898.

The train left Nichol's Bridge, near Freetown, at 4 p. m.; there was a large party on the impromptu cars, including His Excellency and Mrs. Cardew, the principal civil and military officials, and others. The native population was gathered in considerable numbers on both sides of the track, and as the train moved forward were greatly elated and excited, giving vent to their delight by clapping hands and yelling.

The road passes through a delightful country, the scenery charming and romantic, and we saw some exceptionally fine land, which doubtless in the near future will be turned to profitable account if any energy exists in the people. We reached Wellington without a hitch, the natives holding their breath as the train passed over a bridge of 100 feet span and 85 feet drop, but when we were safely over they with one accord gave a joyous shout. At Wellington, a large and thriving village, the natives turned out in full force, every man, woman, and child being present to welcome the white "big man," or chief—the governor—and the many white faces conveyed for the first time by the "iron horse." Some of our party, including the writer, were carried on the aerial railway over a deep ravine of 400 feet span, where a new bridge is now under construction, in continuation of the line from Wellington to Waterloo. The governor made a speech, which was aptly responded to by Mr. Bradford, the superintending engineer, and we returned to Freetown without accident or adventure of any kind, having had an enjoyable outing and having obtained a more practical knowledge of the country and its capabilities.

ROBERT P. POOLEY,
Consul.

SIERRA LEONE, *April 10, 1897*.

NEW CONSUMPTION TAX IN MADAGASCAR.

Under instructions from France, General Galliéni, resident-general, promulgated, on March 29, 1897, the following consumption-tax tariff, abrogating all consumption-tax tariffs heretofore in force in Madagascar, Nossi-Be, Diégo-Saurez, and Ste. Marie. This tariff takes effect ten days after the receipt of the Journal Officiel publishing same (*i. e.*, on April 3, 1897) in each instance, and in consequence is effective at this port on April 23.

These consumption taxes are assessable irrespective of country of origin of goods, and are exclusive of all customs duties and municipal taxes.

The only effect on present importations from the United States lies in the 3 per cent tax on value of tissues. American cottons here have already advanced in price from $1.20 to $3 per bale, and kerosene oil, from 10 to 19.3 cents per kilogram, or 2.2046 pounds (including weight of package), which latter is practically equivalent to an increase from 60 to 75 per cent on cost of oil to local consumers.

I have annexed the tariff in question.

EDW. TELFAIR WETTER,
Consul.

TAMATAVE, *April 15, 1897*.

Consumption-tax tariff in Madagascar.

Articles taxed.	Unit on which tax is levied.	Tax.	
Beers:*		*Francs.*	
In barrels	Per 26.417 gallons	5.00	$0.96½
In bottles	Per bottle	.10	.02
Cards, playing	Per pack	.20	.04
Ciders and perry	Per bottle†	.10	.02
Gunpowder, petards, and fireworks	Per 2.2046 pounds	1.00	.19
Liqueurs:*			
In barrels	Per 26.417 gallons	50.00	9.65
In bottles	Per bottle	.50	.09⅔
Matches	Per 2.2046 pounds net	3.00	.58
Oils, petroleum (kerosene), schist, and other mineral oils suitable for illuminating purposes.	do.‡	.10	.02
Opium	Per 2.2046 pounds	10.00	1.93
Rums, brandies, absinthe, other alcoholic drinks and alcohols of all kinds, including cut wines, dried grape and artificial wines.	Per 26.417 gallons pure alcohol.	120.00	23.16
Tissues of all kinds	Value	3 per cent.	3 per cent.
Tobaccos:			
Leaf or rib	Per 2.2046 pounds	1.00	.19
Cigars or cigarettes	do	6.00	1.16
Other kinds	do	2.00	.39
Wines:			
Ordinary, 12° or less specific gravity—			
In barrels	Per 26.417 gallons	5.00	.96½
In bottles	Per bottle†	.05	.01
Ordinary, over 12° specific gravity and sweet wines—			
In barrels	Per 26.417 gallons	15.00	2.89½
In bottles	Per bottle†	.15	.03
Champagne, sparkling	Per bottle	.50	.09⅔
Do.	Per half bottle	.25	.05

* Such as are so rated in the customs tariff of France.

† Capacity of bottle over 0.52835 quart and less, or equal to 1.0567 quarts. If less than 0.52835 quart, tax reduced one-half; if over 1.0567 quarts, tax levied on measured contents.

‡ Inclusive of weight of package.

ABOLITION OF SLAVERY IN ZANZIBAR.

Hamoud bin Mahomed bin Said, Sultan of Zanzibar, issued a proclamation April 7 abolishing the legal status of slavery in the islands of Zanzibar and Pemba. It was thought by many persons that the effect of freeing the slaves would be to throw many thousands of negroes on their own resources, and that great suffering and privation would ensue for three or four years; but from what I can see, not one person will suffer in the slightest degree.

In my opinion, not 10 per cent of the present generation of slaves will leave their masters, and to outward appearance, the condition of the negro is the same as before emancipation. The Arabs received the news with submission. The town was absolutely quiet, although sailors and marines were prepared to land from the different British men-of-war in harbor. I inclose a copy of the decree as printed in the Government Gazette.

R. DORSEY MOHUN,
ZANZIBAR, *April 12, 1897.* *Consul.*

DECREE DATED 1ST OF ZILKADA, 1314, FROM SEYYID HAMOUD BIN MAHOMED BIN SAID TO ALL HIS SUBJECTS.

Whereas by a treaty concluded in 1290 [1875] between Her Majesty the Queen of England and His Highness the late Seyyid Barghash, etc., the importation of slaves into the islands of Zanzibar and Pemba was forbidden and declared to be illegal; and

Whereas, owing to the lapse of years and other causes, the number of slaves legally imported and held in these islands has greatly decreased, so that many estates have gone out of cultivation; and

Whereas the present system of slavery deters free laborers from coming to our islands to take the place of those who have, from death or other causes, disappeared, to the detriment of agriculture and of our subjects, who are thus driven to borrow money at high interest against the law of Islam and their own welfare, both of which are the objects of our deepest solicitude; and

Whereas the Apostle Mahomed (may God grant him blessings and peace) has set before us as most praiseworthy the liberation of slaves, and we are ourselves desirous of following his precepts and of encouraging the introduction of free labor; and

Whereas our late predecessor, Seyyid Ali, in the decree in which he forbade for the future the sale of slaves or their transmission except by direct inheritance, declared that, subject to the conditions stated in that decree, all slaves lawfully possessed on that date by his subjects should remain with their owners and that their status should be unchanged; so that it would not be equitable to deprive them of any rights enjoyed under that decree without awarding compensation to their present possessors:

We, therefore, having considered this question most carefully in all its aspects, and having in view the benefiting of all classes of our faithful subjects, have decided, with the advice of our first minister, to promulgate, and we do hereby promulgate, the following decree:

ARTICLE 1. From and after this 1st day of Zilkada all claims of whatever description made before any court or public authority in respect of the alleged relations of master and slave shall be referred to the district court (Mehkemet el Wilaya) within whose jurisdiction they may arise and shall be cognizable by that court alone.

ART. 2. From and after this 1st day of Zilkada the district court shall decline to enforce any alleged rights over the body service or property of any person on the ground that such person is a slave, but wherever any person shall claim that he was lawfully possessed of such rights, in accordance with the decrees of our predecessors, before the publication of the present decree, and has now by the application of the said decree been deprived of them and has suffered loss by such deprivation, then the court, unless satisfied that the claim is unfounded, shall report to our first minister that it deems the claimant entitled, in consideration of the loss of such rights and damage resulting therefrom, to such pecuniary compensation as may be a just and reasonable equivalent for their value, and our first minister shall then award to him such sum.

ART. 3. The compensation money thus awarded shall not be liable to be claimed in respect of any debt for which the person of the slave for whom it was granted could not previously by law be seized.

ART. 4. Any person whose right to freedom shall have been formally recognized under the preceding article shall be liable to any tax, abatement, corvée, or payment in lieu of corvée which our Government may at any time hereafter see fit to impose on the general body of its subjects, and shall be bound, on pain of being declared a vagrant, to show that he possesses a regular domicile and means of subsistence, and where such domicile is situated on land owned by any other person, to pay to the owner of such land such rent (which may take the form of an equivalent in labor or produce) as may be agreed upon between them before the district court.

ART. 5. Concubines shall be regarded as inmates of the harem in the same sense as wives and shall remain in their present relations unless they should demand their dissolution on the ground of cruelty, in which case the district court shall grant it if the alleged cruelty has been proved to its satisfaction. A concubine not having borne children may be redeemed with the sanction of the court.

ART. 6. Any person making any claim under any of the provisions of this decree shall have the right to appeal from the decision of the district court to ourselves or to such judge or other public authority as we may from time to time see fit to delegate for the purpose.

Written by his order by his slave Salim bin Mahomed.

HAMOUD BIN MAHOMED BIN SAID.

BOUNTY ON JAPANESE SILK EXPORTS.

Commercial interest has for some time centered largely on the appearance of symptoms of disease among the silkworms which threaten to affect, or have already affected, both the amount and quality of the raw-silk output.

Since raw silk constitutes such a large proportion of Japan's export, the fear of misfortune has reached a stage which may be denominated "panicky." So far has this feeling been emphasized, that it has assumed a national phase, and the Government has been appealed to for assistance. This appeal has not been in vain, for the Imperial Diet, on the last day of its session (March 24, 1897), passed a bill providing for the allowance of a bonus to all Japanese exports of raw silk.

The following paragraphs from the report of the Yokohama General Chamber of Commerce, just published, give particulars of this export bounty, together with comments thereon:

In the tenth session of the Imperial Diet, a bill was rushed through on the closing day (March 24, 1897), which provided that for a period of five years from April 1, 1898, a bounty shall be paid by the Imperial Government on all raw silk exported from Japan direct, *i. e.*, without the intervention of foreign merchants at the treaty ports. At first it was proposed to make the bounty range from $50 to $20 per picul, according to quality; but this portion of the measure was changed in committee of the lower house, and was replaced by a provision "that the amount of the subsidy and the classification of the silk shall be determined by imperial ordinance."

This law seems to be in direct opposition to the spirit of the treaties and calculated to prejudice foreign exporters vis-a-vis their native competitors. It is a matter which calls for diplomatic intervention; then, possibly, the law may be suffered to fall into abeyance, even if it be not revoked in the next session of the Diet. It is manifest that, under the revised treaties, foreign merchants are to enjoy equal privileges with their native confrères. If this fact be strenuously brought home to the imperial ministers, they will probably have no difficulty in devising some less objectionable method of meeting "the imperative necessity to introduce improvements in Japanese sericulture." If this be their real object, it could surely be better attained by giving a reward to the careful grower or producer, rather than by enacting a law which oppresses the foreign exporter who has for so many years built up the finest and most lucrative branch of Japan's export trade.

I have considered it well to inform the Department of the passage of this bill, in view of the fact that it is currently reported that the Japanese will send a commission to Washington for the purpose of influencing a reduction of the increased import duties which, according to newspaper accounts, it is proposed to levy on silk.

N. W. McIvor,
Consul-General.

Kanagawa, *April 1, 1897.*

BOUNTY LAW AS PASSED.

Under date of April 3, 1897, Consul-General McIvor transmits the following copy of the bounty law as passed by the Imperial Diet:

LAW FOR THE ENCOURAGEMENT OF THE DIRECT EXPORT OF RAW SILK.

(*Kiito Choku yushutsu Shōrei Hōan.*)

Article I. Japanese subjects, or commercial companies of which the shareholders are all Japanese subjects, engaged in the direct export of raw silk, as specified below, to foreign countries, shall receive bounties for the encouragement of such export under the provisions of this law:

(*a*) Silk produced in Japan.

(*b*) Silk bearing a duly registered trade-mark.

(*c*) Parcels of silk weighing at least 500 catties each, which have duly passed inspection at the inspecting warehouses, and which fall under one of the categories of Article II.

Art. II. The amount of the bounty and the classification of silk shall be determined by imperial ordinance.

Art. III. Any person fraudulently obtaining the bounty contemplated by this law shall be liable to a fine of from 200 to 1,000 yen, shall be required to return the bounty, and shall thenceforth cease to be eligible for a bounty.

Any person attempting, but not consummating, the crime mentioned in the above clause shall be dealt with under the provisions of the criminal code relating to unconsummated crimes.

Art. IV. In the case of a commercial company, the above punitive provisions shall be applicable to their responsible members and managers.

ART. V. Regulations for the detailed operation of this law shall be enacted by the Minister of State for Agriculture and Commerce.

ART. VI. This law shall go into force from the 1st day of the fourth month of the thirty-first year of Meiji (April 1, 1898) and shall remain in force for a period of seven years, namely, until the 31st day of the third month of the thirty-eighth year of Meiji (March 31, 1905).

MANUFACTURE OF LIMOGES CHINA.*

The growth of the china industry at Limoges presents a very interesting chapter in the history of French art and enterprise. All the wonderful development that has taken place—the discovery of kaolin at St. Yrieix, the building of factories, the establishing of a name and market throughout the world—have occurred within the last century.

Limoges ware is considered by connoisseurs second to none in points of excellence. Its hardness, clearness, translucency, and general adaptation for tableware and decorative uses is unsurpassed. The United States appreciates, as no other country, the superiority of this china, nearly three-fourths of all the goods manufactured in Limoges finding its way thither. It will therefore be interesting and profitable for many who are unable to visit Limoges to know something about the manufacture of this celebrated ware.

KAOLIN AND CLAYS.

The first important factor in this china is the kaolin. What are reputed to be the purest deposits of this clay in the world are found in the quarries around St. Yrieix, Haute Vienne. Forchhammer, Brongniart, Salvétat, and other distinguished chemists have given the formula of true kaolin as $Al_2O_3.2SiO_2+2H_2O$. The kaolin discovered at St. Yrieix responds to this.

There are many other decompositions of feldspathic rock in other sections of France and in Great Britain; but they all contain more or less water, iron, mica, magnesium, and often sulphur. An excess of water is extremely injurious in making the very delicate paste used by Limoges potters.

The different grades of this china are frequently caused by mixing the cheaper and impure clays from other quarries with the true kaolin. The color and weight of the ware is apparent immediately to the eye of an expert in china. The body of the glaze consists principally of feldspath and kaolin; many manufacturers add to these a certain proportion of ground china. One of the features of Limoges glazes is the entire absence of lead. This mineral forms an important factor in American and British enamel, but the excessive heat required to fire the hard china would make lead practically useless. The entire process of manipulating the clay and firing differs in France from the methods used in other countries. The American and British potters make a very hard bisque and a very soft glaze, while the French reverse the order of manufacturing.

---

* A series of illustrations which accompanied this report are filed in the Bureau of Foreign Commerce.

Before the kaolin is delivered at the factory, it is washed and ground and all impurities removed. After its reception at the works, it is again washed, and a pump carries the liquid up into a receiver, where it passes between two electro-magnets to remove every particle of iron that might remain in the clay; this mineral discolors the china (often forming black spots, so much objected to). The liquid is then poured into bags and transferred to a hydraulic press, where the superfluous water is forced out of the clay. The bags are emptied on a sort of platform covered with zinc, over which run heavy rollers. Great care is taken to prevent the paste from touching iron, the cast-iron roller cylinders being incased in zinc. When the clay has finished its course under these rollers, it is placed on another zinc-covered disc and worked by similar cylinders. These mixers give a plasticity and evenness to the paste that no other manipulator has been able to impart. The paste is now ready for the potter.

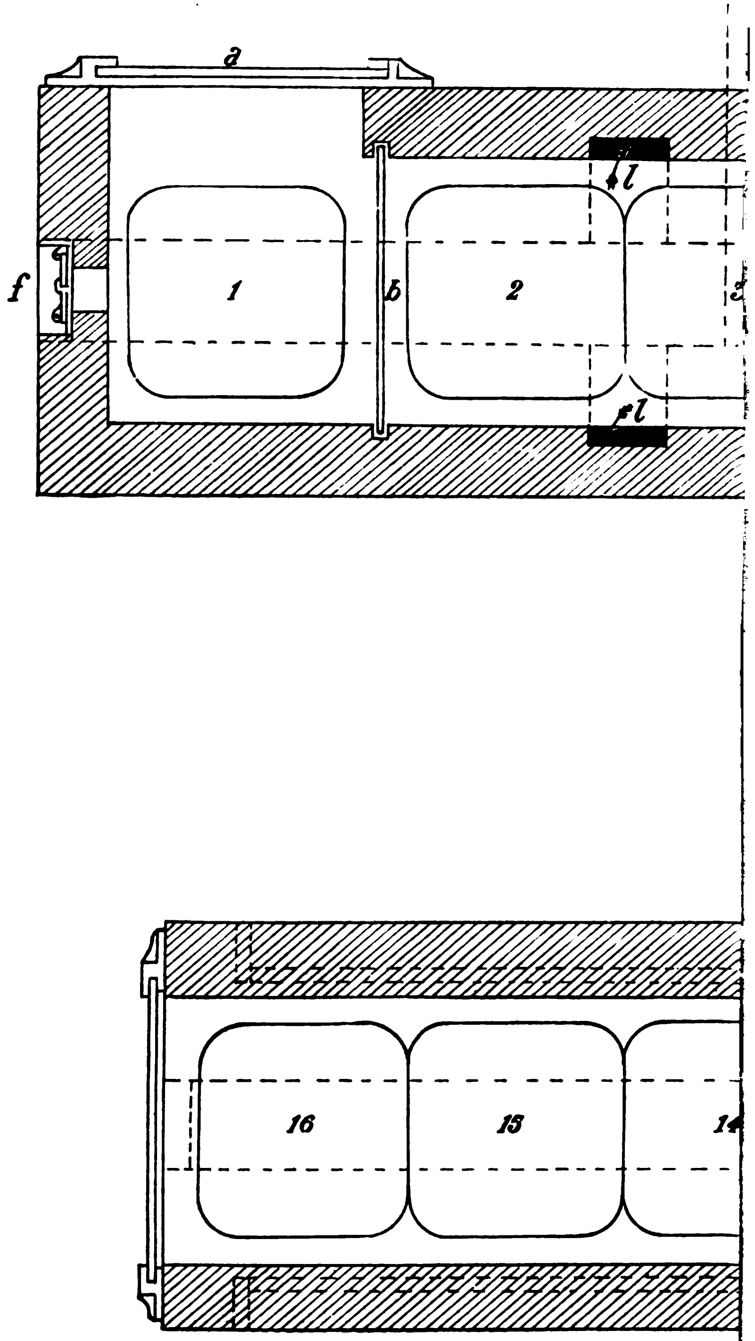
MACHINERY.

Nearly all the molding and jigging is done by machinery. The plaster is placed upon a jigger, or revolving disc, which is thrown in and out of gear by the foot.. The knife gauge can be so arranged that the same machine can make several kinds of molds. This machine economizes hand labor and contributes very much to the rapidity with which work can be done. There are machines for making plates, saucers, and platters. A machine reduces the paste to the desired thickness, while another throws it on the mold, and the plate is finished on still another. One man usually works these three machines. He makes just as many plates as he can change the molds necessary for each one of the three. These machines work automatically. Steam power is generally employed. They work so evenly that there is no danger of imperfections in the articles made. There are two machines for making hollow ware, such as cups, soup tureens, bowls, and deep dishes of all kinds. In one of these, there are two pedals, one regulating the pressure made on the paste and the other throwing the machines in and out of gear. The gauge is so arranged as to fit into both hollow and curved ware. There is not only a down motion, but a side motion, to the gauge, which makes it conform to the irregularities of the mold. This machine has reduced the cost of manufacturing soup tureens, sauce boats, salad bowls, and covered dishes. A very ingenious contrivance is used in making oblong platters, etc. The jigger has one long and one short motion of the eccentric, giving the necessary motion for the elliptical shape of dishes. The quantity of articles possible to make on a machine is very great. One workman can turn off as many dishes in a given time as twenty could by hand, and the work is better done. The revolutions in jiggering can be regulated by a machine. It is often very necessary to accelerate the revolutions of a machine in making certain articles; this regulator accomplishes this purpose. Heretofore the trouble with cup-making machines has been their rigidity. Mr. Faure has overcome this trouble in the improved cup machine, which has not only the down motion, but the gradual side motion which corresponds to the movement of the human hand.

FIRING.

The manufacturers of Limoges have made great progress in the art of firing china; they have studied the subject in a most scientific manner. Several years ago the old system, so common throughout Great Britain and the United States, was abandoned on account of the high price of coal and the great loss in inferior goods. The old kilns were replaced about ten years ago by what is known as the down-draft furnace; these kilns are built in two stories. The lower is charged with glazed ware, as it requires the highest temperature, and the upper (also called the globe) is filled with bisque. The diameters of these kilns vary from 15 to 21 feet and are heated by fire boxes situated around the base of the kiln. In this down-draft furnace, the heat, as it rushes from the fire boxes, is drawn up to the roof of the first story, and then, by flues formed by the saggers, it is drawn down through holes in the floor into passages made under the floor, from thence passing through the sides of the kiln up into the globe, or second story, whence it escapes by a chimney into the air. This system is more economical than the others; it regulates much better the heat in the first story, and at the same time some of the previous heat that is wasted is utilized.

Within the last two years several new inventions have been tried successfully. Smaller kilns of one story have been built and fired in a continuous manner by a system of flues connecting each kiln with the others at the top and bottom (this series of kilns is arranged in a circle usually). The waste heat thrown off from one kiln is drawn into the top of the next one and follows the entire circle until it escapes from the last one into the chimney. This method of firing china economizes both fuel and time. Only half the amount of the former is required to produce the same degree of heat, and the china



Firing kiln. This plan wa

Consular Reports No. 202, face p. 429.

is better fired in less than thirty hours, whereas the down-draft system takes about seventy. This is an important item, both as regards economy in labor and the risks caused by improper firing.

A still newer kiln is represented in the accompanying illustration. This system is being tried just now and promises to revolutionize the whole manner of firing. The form of the kiln is entirely changed, as will be seen by the illustration. The saggers containing the china are placed on cars or slabs, made of fireproof material, which are pushed or drawn into a hot-air chamber whose temperature gradually increases as they are advanced toward the firing chamber. At this point, a water-cooled damper lined with fireproof bricks is raised, so that the cars proceed into the firing chamber where the heat is concentrated. It remains here until the china is baked; then another water-cooled damper is raised to let the car pass out into the cooling chamber, where the cars move slowly toward the exit of the kiln. By a careful arrangement of drafts, the hot air from the highly heated saggers is drawn under the fire box, thus saving all waste heat. The advantages obtained by this system of firing are: (1) Economy of fuel; (2) saving of time (it is estimated that china paste can be made into china, passing through the several processes of bisque, glazing, and decorating in from thirty to forty hours); (3) cheapness in constructing the kilns and repairing them; (4) the saggers last much longer; (5) a gain in the quality of the goods; (6) reducing the number of men required to tend the fires; (7) as the cars or slabs are loaded before entering these kilns, as large a force of men is not required as is necessary in filling a down-draft or old-fashioned kiln; (8) a perfect control and knowledge of all parts of the kiln can be had all the time the firing is going on; (9) this kiln can be used for every purpose in making china, viz, bisque, glazing, and decorating, this latter process being done by covering the cars with a muffler or hood.

DECORATION.

The decoration of china has been reduced to a very fine art in Limoges. The beautiful designs—floral, fruits, and landscapes—so much admired in the United States are produced in such quantities and so rapidly that it would be impossible to make one-thousandth part of the decorations by hand. The processes of lithographing and decalcomania have replaced all hand painting except for rich decorations and special orders. The small decorators purchase the decalcomania sheets ready prepared. They employ girls to stick the pictures on the china. After the paper has been removed therefrom, the articles are fired in the "moufles" to set the colors.

The large manufacturers, however, make their own decalcomania sheets, work out their designs, and control their decorations themselves. The design is cut upon stone in the same manner as a chromo-lithograph, each color having a separate stone, which is passed through a machine. The color, which is in powder, is sprinkled on the paper after it has received the impression from the stone. Only that portion which should receive the given color is impressed, so that after the different paints are passed upon the sheets called for by the design, the sheet is ready for transferring.

Much alarm was caused some time ago by lead poisoning from the colors, but now the powdering is done under cover. The top of the tables are in glass, the backs and sides are made of wood, but the front is of cloth, in which are armholes fitted with elastic bands, so that the hands can be thrust through and the powdering done without the danger of inhaling the dry colors. The work is seen through the glass top. A new powder is now being tried which dispenses altogether with lead.

The "moufles" are of two kinds—the old fashioned, built of fire brick with a space between the outside and the inside lining that is used to protect the decorated ware from the smoke and impurities during combustion, the firing being done with wood; the other "moufle" is arranged somewhat after the style of the kiln shown in the illustration, coal being the fuel employed in heating.

WALTER T. GRIFFIN,
LIMOGES, *March 27, 1897.* *Commercial Agent.*

AMERICAN COTTON-SEED OIL IN MARSEILLES.

The present condition of the oil trade at Marseilles should be specially interesting to the American cotton-seed oil manufacturer.

Owing to the bubonic plague in India, the supply of seeds used in the manufacture of oil is quite short in this market. Sesame, peanut, poppy, linseed, castor, and cotton seed were received in large quantities from Karachi and Bombay before the outbreak of the plague. This source of supply has been, for the past two months, entirely cut off, and there is a scarcity of seed in the market for the manufacture of oils, and consequently an increase in price. The oil mills here are threatened with partial suspension, unless something is soon done to relieve the situation by removing restrictions or opening up new sources of supply. This has been a golden opportunity for American cotton-seed oil, and our manufacturers are making use of the opportunity. The cheapest grade of olive oil for machinery purposes is quoted on the market at from 54 to 64 francs per 100 kilograms* (34 to 39 cents per gallon), and peanut oil at 46 francs per

---

* Reductions made at the rate of 3⅛ kilograms to the gallon, or 32 gallons to the 100 kilograms.

100 kilograms, or 28 cents per gallon, while American cotton-seed oil is selling at 40 francs per 100 kilograms, or 24 cents per gallon. The oil manufacturers here are unable to meet this competition, and a meeting of protest was held here a few days ago, at which resolutions were adopted urging the French Government to impose a higher tariff on American cotton-seed oil. The present tariff is about 6 francs per 100 kilograms, or about 3½ cents per gallon; and the proposed increase is to 7 or 8 cents per gallon. But the business community is not in harmony on this subject. The soap manufacturers and other industries using seed oils are opposed to any increased taxation on cotton-seed oil, which they are consuming in large quantities at present, owing to the higher prices of peanut, olive, and cocoanut oils.

I consider it my duty to give a word of caution for the benefit of our customs collectors as to the classification by importers of olive oil. Under the proposed Dingley bill, the duty on olive oils for table uses is 50 cents per gallon (it is 35 cents under the act of 1894), while under both the Wilson and Dingley tariffs olive oil for machinery purposes is on the free list. As an exporter here remarked to us the other day: "It is a question of opinion as to what grade of olive oil is or is not suitable for salad or table purposes." Hence by invoicing salad oil as olive oil for machinery purposes, importers might evade entirely the payment of duty. This consulate has exerted itself as far as possible to prevent such practices here, but is unable to do much in this direction. I must say, however, that in my opinion the exporters of olive oil from this consular district are, as a rule, men of high business and personal character.

I submit some statistics showing the receipts of American cotton-seed oil at Marseilles during the past seven years:

Year.	Quantity.		Year.	Quantity.	
	Barrels.	*Kilograms.*		*Barrels.*	*Kilograms.*
1890	66,024	10,809,190	1894	12,530	2,105,789
1891	56,302	9,308,217	1895	59,528	10,072,481
1892	36,798	6,093,979	1896	112,627	20,334,125
1893	13,360	2,254,693			

During the year 1896, the total receipts from all other countries than the United States were only 11,235 barrels, 11,109 of which came from British provinces. Hence nine-tenths of the cotton-seed oil received at this port during the past year was from the United States.

On December 31, 1896, there were 10,000 barrels of American cotton-seed oil in stock here and only 1,400 barrels of English oil.

The following statement shows the prices of cotton-seed oil during the last seven years. The English oil is evidently of an inferior quality, as indicated by the quotations.

Year.	Price per gallon.		Year.	Price per gallon.	
	American oil.	English oil.		American oil.	English oil.
	Cents.	*Cents.*		*Cents.*	*Cents.*
1890	35	34½	1894	35¼	32 3/16
1891	34½	33⅓	1895	29 3/16	28 3/16
1892	32	31¼	1896	26⅜	26
1893	43	37			

CHAS. P. PRESSLY,
Acting Consul.

MARSEILLES, *April 5, 1897.*

STAVES AT NICE.

The cultivation of the olive and the vine are industries of leading importance in this district. In consequence, in addition to casks which form a permanent stock in trade and those which come from other localities, there exists a necessity for the manufacture of casks to supply the needs of local demand, created by wear and tear and by other conditions of trade.

LOCAL DEMAND.

The local demand for new casks comes chiefly from those merchants who are engaged in the oil and wine trade of this district and is dependent upon the conditions regulating demand and supply. Much oil sent to parts of Europe, as, for example, Russia, Roumania, Germany, and elsewhere, goes in casks, which are thoroughly protected by being securely wrapped in straw matting specially made for this purpose. So well is this done that all danger from jarring or careless handling is removed, and the cask, as well as the oil, is thus carefully guarded in transit. But a very large part of the export of oil takes place in bottles, especially to the United States, thus decreasing the demand for new casks.

The staves used for manufacturing casks are selected with great care, especial attention being given to avoid all defects and to reject those which are porous or spongy. These staves, according to the special use intended, are of the hardest chestnut or oak. The chestnut, from its special fitness, is the material selected for staves intended for oil casks. Chestnut staves are largely imported from southern Italy, as the wood of the tree found there is very hard and dense, and, being less porous or spongy than that generally found elsewhere, it is particularly adapted to the use of casks for oil. Oak staves are used generally for making wine casks.

As, however, oil casks are used at times for export, as before mentioned, the manufacture of these casks constitutes the principal manufacture requiring importation of staves, more especially as the wine produced in this district is almost entirely used for home consumption. For this last reason, oak staves are in much less demand than the hard chestnut ones required for oil casks.

All these casks are made by experts from the highest grades of material and are critically examined by those who use them, long experience giving a quick perception of minor defects which elsewhere would pass without notice. With such care and such excellent coopers, these casks are capable of long and hard service. This is a matter of much consequence, as many of these casks constitute a permanent part of commercial capital invested in them, and perform their special missions in trade from season to season. This new supply, therefore, which is manufactured is largely intended to take the place of such casks as may go to very distant places and which are not returned, or to replace such as long wear and tear may render useless. Those last mentioned in permanent stock are not supposed to be great, in view of the high grades of hard chestnut employed and the excellent character of the original work, together with the care and good cooperage which are always given to such valuable and necessary property. Indeed, it may probably be assumed that casks which remain for home use in the oil and wine trade have an enduring life, and may be considered as requiring no large additions to their number beyond such as come from increased trade or crops. Those which remain abroad when exported with oil require to be replaced, in conformity with the demands made upon the trade.

SIZES

In manufacturing these different casks, the following sizes and dimensions of staves, as I am informed, are employed here:

Length.		Width.		Thickness.	
Meters.	*Inches.*	*Meters.*	*Inches.*	*Meters.*	*Inches.*
1.50	59.05	0.15	5.905	0.03	1.1811
1.40	55.118	0.14	5.51155	0.03	1.1811
1.35	53.1495	0.13	5.1181	0.03	1.1811
1.15	45.2755	0.11	4.3307	0.03	1.1811
1.05	41.3385	0.10	3.937	0.03	1.1811
0.95	40.15	0.10	3.937	0.02½	0.9925

PRICES.

Prices for staves depend, as do all other articles of commerce, upon the law of demand and supply, as well as upon all those conditions of trade which affect that law—conditions which need no enumeration. Such prices as have been furnished to me, on inquiries, are therefore subject to such changes and variations as the conditions may create. Good crops of olives, or perhaps of wine, combined with prosperous financial affairs in other countries, would create extra demand and raise prices, while opposite conditions would tend to lower them.

When I am asked to give prices—as at times I am—for various articles, I can only give such a basis as may be given to me at the time being; and even that basis might be changed by the most unexpected events—a death, a liquidation, a financial crisis (local or otherwise), in short, any one of those unexpected events which the mercantile world endeavors at all times to foresee by the use of the cable or the advices of a trusted agent or correspondent in every department of exchange and of merchandise. Interested parties in trade make their own terms and prices, each depending on the other at every particular transaction—in fact, a bargain, a contract—and thus determine between themselves prices which very often appear to be quite regular; but the very fact that each transaction in trade usually involves some discussion as to values, indicates that no price is ever considered as being so regular as not to make the very first question of sale or purchase, What is the price? A bargain is a compromise when both buyer and seller suppose they have mutually profited. Such is probably the case where prudence, experience, and wisdom guide those who buy or sell. Prices are made, therefore, at each transaction, and no safe business can ever be done without comparing the actual prices offered or given with the precise conditions at the time of purchase or sale. When, therefore, I give for any article, whether of staves or other merchandise of any nature, prices as furnished to me, it will always be understood by those who ask for them or those who read or use them that they are given subject to all reservations enumerated above or as subject to those laws of prudence which should govern all who would desire to profit by information furnished to me to serve as bases of inquiry in their business transactions.

Such information is furnished to me as hereunder given as to the usual prices of staves, subject to changes; but it should ever be borne in mind that such prices are for actual delivery here, free from all charges, taxes or duties, freight, handling, exchange, commission, or others of whatever nature. Hence the need of the cable and the trusted correspondent, who may advise quickly net prices and may at once give such information as may determine the difference between profit or loss on a particular transaction. I have dwelt at some length on this subject, not because I deemed it more important in regard to staves than any other article of export or import, but because I am constantly asked to give prices, as if such prices were enduring. I know that wise and experienced men of affairs will need no suggestion. No barometer is as sensitive as finance, whether in trade or otherwise, and the wise merchant or manufacturer marks the slightest variation in its rise or fall with an experience which he only can interpret, showing him what others do not see as to financial calm or storm.

Prices of staves per hundred.

Sizes.		Price per hundred.	
Meters.	*Inches.*	*Francs.*	
1.50	59.05	40	$7.72
1.40	55.118	35	6.76
1.35	53.1495	22	4.25
1.15	45.2755	15	2.90
1.05	41.3385	11	2.12
0.95	37.4015	5	.97

Italian staves, such as are mentioned, are usually imported in bundles of twelve, securely bound so as to occupy as small a space as possible.

CUSTOMS DUTIES.

I have been informed that the usual customs dues here are 2.50 francs (48¼ cents) per 100 kilograms (220.46 pounds).

FREIGHT RATES.

The cost of freight must necessarily be determined by shipping rates and other conditions at the place of export. I am frequently asked to give freight rates from various places in the United States to this city, involving, of course, changes, transshipments, and charges already alluded to. Manifestly, the point of original shipment and the port of exportation must always govern freight rates and charges.

Abundant means of information are provided in the United States for determining such matters. Great railroads, with their steamship connections, quote rates and give bills of lading to all accessible parts of the world. Commercial and shipping agencies are in communication with all centers of trade and commerce. Forwarding agents and ship brokers are always at hand in all parts of the United States. Exporters can at any time have ample, reliable, and immediate data on all subjects involving freight and transportation.

COMMERCIAL STANDING OF MERCHANTS.

As to correspondents and agents in foreign parts, those commercial agencies which supply information as to financial standing and the credit of mercantile and other business firms have data for all such information. I am told that some of these commercial agencies can give any information of such character for all parts of Europe, and that their facilities for such information as may involve commercial reputation and financial standing of dealers is without limit. Added to these agencies, which engage in such matters and are responsible to parties employing them, the banks of the United States and Europe are ever in close contact with each other, and all persons who require information as to the financial standing of other firms at home or abroad can secure themselves in business transactions by giving and requiring through such banks such mutual references as to financial responsibility and commercial repute as may be deemed mutually proper or satisfactory in proposed transactions.

WILBURN B. HALL,
Consul.

NICE, *March 31, 1897.*

AGRICULTURAL PRODUCTS OF MALAGA.

The principal agricultural products of the province of Malaga consist of grapes, almonds, figs, olives, lemons, oranges, wheat, barley, indian corn, and for years past much attention has been given to the raising of sugar cane, beet root, and sorghum.

GRAPES.

The cultivation of the grapevine is the staple industry. Formerly there were some fifty varieties of the fruit, all of which, with the exception of the muscatel, Pero-Ximen, and Loja have disappeared.

Muscatel.—The muscatel grapes are raised on the hills near the sea, which extend back 3 to 6 miles to the base of the mountains, which shelter them from the winds from the north and southwest. From the city of Malaga to Nerja, about 40 miles east, it is one continuous chain of hills running up to 200 feet, covered with muscatel vines. This variety has also been grown to some extent during late years on the hills scattered throughout the Vega, or plain of Malaga, and along the coast to the westward. The entire muscatel district embraces at least 70 miles. The soil of the hills is composed of clay and slate. The muscatel is more delicate than other varieties of grapes and requires a warm, sheltered position for ripening the fruit and a southern exposure for drying and converting into raisins, which process requires about fifteen days of clear, fine weather in

August. A good average crop of raisins was estimated at 2,500,000 boxes of 25 pounds each, which has now been reduced to 700,000 boxes, owing chiefly to the ravages of the phylloxera. During the years 1889–1896 there were about 30,000,000 American cuttings brought into the province, and about 400 hectares (988 acres) of land were planted and grafted to make good the loss sustained. The best portion of the grape district is to be found at Velez Malaga, situated northeast of Malaga proper. It was here the raisin grape was first planted by the Romans or Phœnicians; this was also the first locality to be attacked by the phylloxera.

The Pero-Ximen.—The Pero-Ximen grape grows extensively on the mountains between Malaga and Granada. The grape is hardier than the muscatel and is not affected by humidity, shade, or exposure. The mountain soil is of the same slaty nature, intermixed with minerals of different kinds.

The Loja.—The Loja, or export grape, grows in the interior of the province, the finest of which come from the adjoining province of Almeria. This is almost the only species of grapevine that runs on trellises and trees and is pruned after the English method. All other kinds are cut in the month of December to within a few inches of the ground and are planted in rows at distances of 6 to 8 feet each way; the weeds are carefully hoed out and the vineyards are kept clean. The vines are set down manured, unless they are very old, their life being thirty or more years. Vines are set out in the month of December, flower in March or April, and the fruit ripens in July and August. During many years, the vines have suffered from the disease termed the oïdium, or "ceniza," and lately by the mildew and phylloxera.

THE ALMOND TREE.

The almond tree flourishes best in stony, sterile soil, where no other tree could exist. It blossoms as early as December and January, and any sudden change of temperature or a heavy easterly wind destroys the flowers, thus affecting the coming crop. Its cultivation, however, is preferred to other trees more sure and abundant. The fruit ripens in July and August.

THE FIG TREE.

The fig tree is less delicate than the almond, but requires more cultivation to preserve it. It adapts itself to all kinds of land; but the fruit is finer and more luscious if raised in warm, sheltered positions with but little moisture, which is prejudicial. Copious rains produce a short crop of inferior quality, cause an active fermentation, and engender insects. The dry branches are pruned, and the trees are well irrigated once a year. The tree buds in March, and the fruit ripens in July and August.

THE OLIVE TREE.

The olive tree grows everywhere, and the mountains abound with the wild variety. This tree blossoms in April, and the fruit is gathered in November and December.

The neighboring provinces of Jaen and Cordova are devoted to the cultivation of the olive, and the larger supply of oil for exportation made from this fruit is received chiefly from those districts. The Spanish oil would compete with the best Italian oil if more care were taken in extracting it by methods now practiced in France and Italy.

LEMON AND ORANGE TREES.

Lemon and orange trees abound in different parts of this province, particularly at Velez Malaga, Coin, Alhaurin, and Marbella. They are planted in sheltered positions, not too near the sea. There are numerous groves close to the city of Malaga and on the banks of the River Guadalmedina.

The trees blossom in March, and the fruit ripens in the summer, fall, and winter. The heavy exportation of the fruit is in September and October.

GRAIN.

Wheat and barley of various kinds are raised on the Vega, or plain of Malaga, and in the valleys between the mountains.

The wheat from the interior of this province, particularly that of the Vega of Antequera, Casabermeja, and Colmenar is of the finest quality; but the provinces of Seville, Estremadura, and La Mancha are regions of cereals of all kinds, the production of which in these districts is very extensive.

Rye, oats, and grass are very little cultivated in this province. Indian corn is raised to a considerable extent on the plains of Malaga and on the lands irrigated by the Guadalhorce, which takes its rise near Loja in the mountains between Malaga and Granada.

The usual time for sowing wheat and barley is about the middle of October; the harvesting commences in May and June. Indian corn is planted in May and June and ripens in September.

SUGAR CANE, BEET ROOT, AND SORGHUM.

Great attention has been directed, for years past, to the cultivation of sugar cane, beet root, and sorghum. The principal plantations have been on the east coast, between Velez Malaga and Adra, but are now being greatly extended throughout the plains of Malaga. The cane is planted in loose, irrigated soil during the month of April, matures and is cut in February and March. Canes may be cut without renewal of the plants from four to seven years. For dressing the land, stable manure is used. There are nine sugar refineries, large and small, in this province, the product of which sells at high prices—from 8 to 15 cents per pound. There is also a large consumption of the cane by the people, which is purchased at the plantations for about 50 cents per 100 pounds and retailed all over the city. Sugar is one of the important productions of the province, and the Vega of Malaga, which extends westwardly from the city, is 2 leagues in length and about the same in width, with a narrow arm extending 5 or 6 leagues into the interior toward Alhaurin and Alora. It is irrigated by the River Guadalhorce. The soil varies greatly, from the richest to the poorest; even on small patches of land several kinds of soil can be observed. The best irrigated land is composed of a red and whitish clayey marl, which is extremely fertile, while the dry land, near to the city, contains more chalk and limestone.

THE VEGA OF MALAGA.

On the Vega is cultivated wheat, barley, grapes, sugar cane, vegetables, and fruit trees, such as plums, cherries, apricots, peaches, quinces, apples, and pears; likewise all kinds of plants and trees which have been imported from distant countries. Alongside of the chirimoya of Peru may be seen the pine of the Alps and other trees from the snowy regions of the north.

Near the city, the Vega is divided into kitchen gardens, fertilized with stable and street manure, which produce abundantly vegetables such as pease, cauliflowers, white and sweet potatoes, and melons of all kinds at all seasons of the year. Hemp, flax, canary seed, and licorice root are grown near the River Guadalhorce, and along the ditches indian corn is planted. Hemp and flax of a superior quality is grown on the plain near Granada, the land being fertilized with guano. The best apples and pears come from Ronda, a town situated in the mountains between Malaga and Gibraltar.

QUALITIES OF FRUIT AND VEGETABLES.

Fruit and vegetables in general, excepting the grape, are not so well flavored as those grown in the United States, possibly owing to the want of scientific cultivation, in which the inhabitants here are greatly behind the age. To this day the old Roman plow is exclusively used for turning the soil.

TREES AND SHRUBS.

On the mountains, in places not given over to grape culture, may be seen oak trees of different kinds, chestnut, cork, myrtle, pine, etc.

The algaroba, or locust tree, producing the bean fed to cattle in place of grain, which is very nourishing and fattening, grows in abundance. This tree abounds best in the mountainous land near the coast, requires no cultivation, grows to a very large size, and lives many years. The trees (except fruit trees) on the plain are few. The black and white poplar and willow grow along the banks of the river.

There are many varieties of shrubs in the province, such as sumac, rhododendron, wild marjoram, thyme, lavender, oleander, thorn of different species, etc. Cactus and aloes grow profusely in the mountains and on the plains and shores. The prickly pear flourishes, a leaf of which thrown anywhere on the ground will take root, particularly in the month of July. It is used for hedges, and there is a large consumption of the fruit in August, September, and October among the poorer classes.

CLIMATE.

The province is indebted for its extraordinary agricultural production to the mild climate and rich soil, and, as before stated, vegetables and flowers of every description can be produced in a greater or less degree without regard to a fixed time for planting.

The climate of Malaga is remarkable for the dryness of the air and the stimulating effect upon the land. The prevailing wind is north and northwest, and storms seldom occur, consequently the range of the barometer is very limited.

The following rain table is taken from a record kept by a gentleman in this city and can be relied upon for accuracy. The year is calculated from September 1 to August 31, inclusive.

Year.	Rainfall.		Year.	Rainfall.	
	Inches.	*Lines.*		*Inches.*	*Lines.*
1889	15	3	1893	31	6½
1890	12	7	1894	37	2
1891	13	4½	1895	37	6
1892	21	5¼	1896	24	8

The mean for the nine years was 24 inches and 8 lines.

It seldom rains during the summer months and not frequently in May. Should there be rainfall in August, great damage is done to the grapes on the vines, causing them to burst, and it is also very injurious to those on the ground. Although of late years the paseros, or drying places, are protected against rain by movable roofs and tarpaulin, yet, when covered up, the raisins become heated and moist and the quality deteriorates. Rain usually comes from the southwest, and Gibraltar bears west by south from Malaga. The Atlantic winds, passing through the straits, when meeting the Levant or east winds, produce rain. The wind from the northwest, called "terral," or land wind, is very dry in the summer season, and the heat is similar to that coming out of an oven; in winter, it is a cold, piercing air.

ECONOMIC PLANTS, TREES, AND SHRUBS.

List of economic plants, trees, and shrubs cultivated in the province of Malaga and the period of sowing, flowering, and maturity.

Name.	Character of soil.	Period of planting.	Time of flowering.	Period of harvest and maturity.
Grapes	Slaty siliceous	December	March and April.	August and September.
Wheat	Clayey marl	November and December.	April	June.
Barley	do	do	March	May.
Indian corn	do	May	do	September and October.
Hemp and flax	Irrigated	December	March and April.	August.
Canary seed	do	February	do	May.
Sugar cane	do	April and May	do	March.
Fruit trees.				
Olive	Mountains	December	April	November and December.
Almond	Stony	January	December and January.	July and August.
Fig	All kinds	December	March	Do.
Lemon and orange	Irrigated	January	April	Do.
Apricot and plum	Clayey marl	December	March	June and August.
Cherry	do	do	do	Do.
Apple	do	do	do	September.
Pear	do	do	April	October.
Quince	do	do	do	Do.
Chirimoya of Peru	do	April	March and April.	Do.
Pomegranates	do	do	do	Do.
Palms	Garden	do	do	Do.
Mulberry	do	do	do	Do.
Melons	Plain	do	April	July.
Forest trees.				
Oak (varieties)	Mountains			
Walnut and chestnut	do			
Locust	do			
Elm, willow, and poplar	Plain			
Bella sombra	City estates			
Pine and cork	Mountains			
Shrubs.				
Hazel	do			
Rosebery tree	Rivulets			
Lavender thyme	Mountains			
Lilac and alder	Vega			
Laurel and sumac	Mountains			
Vegetables.				
Asparagus	Mountains	Wild		February.
Artichoke	Kitchen garden	October	January	Do.
Beans (varieties)	Plain	All seasons	All seasons	All seasons.

In addition to the foregoing and to the cactus, prickly pear, and aloe, which grow on the mountains, the following are grown in kitchen gardens at all seasons: Celery, cucumbers, chicory, lettuce, chick-pease, cauliflower, cabbages, dandelion, endive, eggplant, garlic, peppermint, mushrooms, onions, potatoes, peppers, parsley, pease, radishes, horse-radish, spinach, salsify, strawberries, spikenard, tomatoes, turnips, thistle, water cress, pumpkins, and roses and other flowers.

R. M. BARTLEMAN,
Consul.

MALAGA, *March 11, 1897.*

FOREIGN COMMERCE OF ITALY.

Foreign commerce of Italy for the three months ended March 31, 1897 and 1896.

Description of merchandise.	Imports			Exports.		
	Three months ended March 31—		Difference.	Three months ended March 31—		Difference.
	1897.	1896.		1897.	1896.	
Spirits, wine, and oils	$1,581,697	$1,335,248	+ $246,449	$7,673,392	$6,474,465	+$1,198,927
Groceries, spices, and tobacco	3,879,899	3,651,474	+ 228,425	420,975	303,790	+ 117,096
Chemicals, drugs, resins, and perfumery	2,556,919	2,053,467	+ 503,452	2,047,615	2,055,244	— 7,629
Dyes, dyestuffs, and articles for tanning	1,566,037	1,375,883	+ 190,154	727,888	674,678	+ 53,210
Hemp, flax, jute, etc	1,199,291	1,472,841	— 273,550	3,410,035	2,635,986	+ 774,049
Cotton	7,187,876	7,876,231	— 688,355	1,500,104	1,167,608	+ 332,496
Wool and hair	3,411,020	3,175,816	+ 235,204	508,483	731,209	— 222,726
Silk	5,137,485	4,032,802	+1,104,683	14,110,706	13,844,997	+ 225,709
Wood and straw	2,025,383	1,628,311	+ 397,072	1,937,411	1,967,784	— 30,373
Books and paper	609,710	593,999	+ 15,711	407,163	390,575	+ 16,588
Skins, hides, and furs	2,352,553	2,016,685	+ 335,868	1,024,355	1,210,958	— 186,603
Minerals and metals	6,316,749	6,470,946	— 154,197	1,938,185	1,250,535	+ 687,650
Stone, earth, pottery, and glass	5,055,467	5,066,631	— 11,164	2,723,037	3,075,010	— 351,973
Cereals, flour, and vegetable products not elsewhere included	4,642,164	8,321,703	—3,679,539	5,181,419	5,010,440	+ 170,975
Animals and animal products not elsewhere included	3,922,896	3,411,134	+ 511,762	6,020,396	6,060,222	— 39,826
Miscellaneous	960,006	838,793	+ 121,213	1,099,493	805,074	+ 294,419
Total	52,405,152	53,321,964	— 916,812	50,730,659	47,686,868	+ 3,031,989

The foregoing statement, taken from statistics just published by the Italian Government, shows the same general features of trade as for the closing months of 1896, *i. e.*, a continual decrease in the imports and a more marked increase in the exports. Before pointing out in a very summary way the causes of this state of things, let us analyze the above-given totals for each of the three months.

Month.	Imports.		Exports.	
	1897.	Difference compared with 1896.	1897.	Difference compared with 1896.
January	$14,613,966	−$2,421,345	$14,360,217	+$1,100,994
February	18,168,865	+ 1,374,087	17,569,492	+ 1,953,472
March	19,622,328	+ 130,448	18,801,595	+ 18,160

The notable falling off in the imports for January was due exclusively to diminished importation of breadstuffs, of which Italy took $3,667,000 less than during the year last past.

The increase in the exports for the quarter occurred principally in wine, olive oil, and hemp, as the following figures testify for wine:

Wine in casks exported during January, February, and March.

First quarter—	Quantity.	Value.
	Gallons.	
1896	12,493,528	$2,638,716
1897	15,937,656	3,366,153

Up to date the ruling mean price has been 21½ cents per gallon. The following figures show the increase for the first three months of 1897 as compared with the same period of the past three years:

	Gallons.
1894	11, 889, 057
1895	11, 230, 074
1896	12, 493, 528
1897	15, 937, 656

More than half (9,843,354 gallons) of the wine exported was taken by Austria-Hungary.

There was also an increase during the quarter in the exports of olive oil, as compared with the same period of 1896, as follows:

First quarter—	Quantity.	Value.
	Pounds.	
1896	34,879,240	$2,906,867
1897	37,946,480	3,162,494

The exportation of hemp, flax, and jute and manufactures thereof for the quarter amounted to $3,410,035, showing an increase of $774,049 as compared with the same period in 1896.

It is proper to note that the exports show some increase all along the line.

The first three months of 1897, on the whole, have not been bad. The exports of macaroni, fresh fruit, vegetables, garden truck, cheese, and eggs are nearly one-third greater in quantity than during the first three months of last year. There has been, however, a marked fall in prices.

WALLACE S. JONES,
Consul-General.

ROME, *May 7, 1897.*

FOREIGN CLOCKS AND WATCHES IN RUSSIA.

Most of the watches and clocks imported here come from Switzerland, but some clocks come from the Black Forest district of Germany. Watches and clocks are not manufactured in Russia. The class of clocks best adapted to the market are the wood cased, principally "hang up;" although in southern Russia "hang-up" and shelf clocks find a market.

There is comparatively little demand for alarm clocks; they are American, imported via Warsaw, and cost retailers from 1.85 rubles (96 cents) up, duty and freight paid.

American watches and clocks are not popular because of the impression which prevails that the works are not first class, and there is only a very limited sale for them. There are no firms in this country handling American clocks especially.

Rabinovich, in Tiflis, is the only wholesale dealer in the Caucasus; Julius Hanne, Mr. Zeitlin, and S. Katz, of Tiflis, also, are respectable retail dealers.

The usual method of settlement is six to nine months' credit; but many Swiss dealers or manufacturers deliver goods, freight and duty paid, to the retail dealers for sale on commission, sending men later to collect.

It is useless to try to do business without commercial travelers, as the retail dealers will not buy without seeing samples of goods. The Swiss and German manufacturers import most of their goods in parts, to be put together in Russia, as in this manner they save on the duty; first quality large, round, "hang-up" clocks cost retailers about $7.25, and are sold by them at from $9.75 to $10.50.

Correspondence is generally carried on in German, as the principal dealers are Jews.

Of course, it is understood that I know nothing of the financial responsibility of the firms whose names are here given. The information given was principally obtained from Mr. Zeitlin, who is the principal dealer here.

In addition, I wish to add that the statement that no goods can be sold without exhibiting samples applies to all goods, as samples are even more necessary here than among the small dealers in the United States, although it seems to be the general impression among American manufacturers that consuls can sell their goods.

I also wish to say that it is my opinion that the conditions of credit upon which European manufacturers sell goods in this district will be found impossible to meet by American manufacturers, and, under any circumstances, considering the expense of representation and the difference in freights against the United States, there is no business to be had in this country to justify risks which must necessarily be taken.

JAMES C. CHAMBERS,
Consul.

BATUM, *April 7, 1897.*

RESULTS OF LABOR INSURANCE IN GERMANY.

One of the works by which Emperor William I is likely to be longest remembered is that in which, by a system of insurance, he guarantied the workingmen of the Empire against the horrors of the poorhouse. Details of the system have been reported so often that anything more than a passing reference to the methods by which the system is being successfully carried out is not needed. It consists of a sick (kranken), accident (Unfall), age (Alters), *i. e.*, old age and invalid (Invaliditaets) insurance. The success of the system's first ten or twelve years of existence is a much more magnificent monument to the dead Kaiser than many buildings of marble and bronze. In hours of sickness, suffering from accident, in old age, in years when, from physical weakness, the working man or woman can no longer toil, he or she has the consolation of knowing that he or she will be, if not comfortably, at least competently cared for out of funds to which he or she contributed when well, and to which, had they remained well, they would have contributed for others. The thing has revolutionized the situation of the working classes. It has wrapped its protecting folds around them and their families. It has helped, or is helping, to change the Empire's entire industrial and social conditions. Its influence is being recognized as for the best interest of employers and employed. The whole Empire is delighted and surprised at its success; for it had its opponents and enemies among all classes, as have almost all new ideas or movements.

By law, the State, employer, and employed are ordered to contribute each one-third of the monthly or annual charge. As a rule, employers have paid two-thirds and the State one-third. The sums to be paid by the help have been paid thus far, as a rule, by the employers. One evil of the system is the huge running-expense account and the fact that it takes thousands from productive labor, increasing abnormally what the socialists look upon as the curse of the Empire—the official class. After careful examination of the whole system and some familiarity with its workings, I can not say it is to be commended to a country like ours. That it works well here is no good reason for recommending it to a people as independent as are the people of the United States.

In ten years, the sickness number of those insured went up from 3,700,000 to 7,200,000. The payments in 21,000,000 cases of sickness, estimated to cover 353,000,000 days, cost 757,000,000 marks ($180,166,000). This huge sum was paid out for working people and their families. It includes none of the expenses of administration.

On October 1, 1895, ten years after organization, there were 426,000 concerns with 18,000,000 persons insured, against 269,000 concerns and 3,000,000 persons insured on October 1, 1885. In the ten years, 361,000 wounded persons were paid pensions of 193,000,000 marks ($45,934,000). Of these, 45,600 were killed; the money was paid to their families. Here, too, costs of administration are not included. A most interesting and instructive argument in favor of accident insurance is the fact that the rate of deaths from accidents decreased in ten years from 25.7 to 9.1. This is due to the fact that almost, if not quite, every concern employing help has had its machines, etc., better arranged so as to guard against accidents.

January 1, 1897, the old-age and invalid insurance system was six years old. During this time, 101,544 pensions were granted to invalids and 241,700 to aged persons. The number of invalid pensioners paid was: In 1892, 17,000; in 1894, 47,000; thus leading the number paid pensions on account of old age (34,000) in 1896. The facts show how important a factor in the nation's life is insurance against incapacity to work caused by invalidity resulting from other causes than accident. Hundreds have their pension rates long before the period put down for old-age pensions to begin arrives, viz, the seventieth year.

In ten years, 1,000,000,000 marks ($238,000,000) have been paid out. Of this huge sum, the employers paid 47.5 per cent—nearly $119,000,000. In other words, working men and women have received more money in this way, says a writer, than they would if all the money owned by German millionaires were to be divided as communists or socialists desire. Painting in language bright with hope the results of this wonderful experiment, writers picture the good fortune of German toilers and challenge the enemies of the present government system to show anything like it in any part of the world. Of course, it does not occur to these writers that the workmen have to earn this extra amount in order that the pensions may be paid.

A movement is on foot to compel manufacturers to pay the 33⅓ per cent now paid by the Government. The opposition urge that any such enactment will only embarrass the Empire's industrial elements and put them in a position where competition with other nations will not be as easy as now. Such a law is likelv to get a great deal of popular support.

J. C. MONAGHAN.
CHEMNITZ, *April 10, 1897.* *Consul.*

TECHNICAL EDUCATION IN GERMANY.

I have the honor to send herewith an extract from an English paper. It deals, in a very interesting way, with the question of technical education. It confirms all that our consuls have been claiming in the matter. The Cologne Times (Die Koelnische Zeitung) has just published an exceedingly well-written article reviewing the dangers to the Empire from the Dingley tariff bill. The article points out Germany's power if she only has the purpose to put and keep herself ahead by means of her wonderful system of schools. Saxony's system is singled out as the one best suited to secure these results. I can not help urging the importance of this question on our merchants and manufacturers.

J. C. MONAGHAN,
CHEMNITZ, *April 16, 1897.* *Consul.*

TECHNICAL EDUCATION IN GERMANY.

The recent controversy respecting German competition has been revived through the publication by Mr. Ernest E. Williams, the author of Made in Germany, of a pamphlet in reply to his critics bearing the title of the German Menace and its English Apologists. Now, it happens that this same subject is at present occupying attention in Belgium, and a writer in the Gazette de Liège describes the steps that have been taken to secure exact particulars in the matter. M. Nyssens, the Minister of Labor, some time ago took up the consideration of the subject seriously, and the result of his activity is to confirm very decidedly the statements made by Mr. Williams. He recognized that German industrial progress mainly depends on the condition of technical education throughout Germany, and this he accordingly commissioned a professor at the University of Gand to investigate thoroughly. The professor's report has just been issued. It is a lengthy and most instructive document. The sketch given of German technical teaching explains the development of German industry and commerce. The report clearly shows that the superiority acquired by Germany is the recompense of painstaking adherence to a fixed programme. The country is reaping what it has sown, and if other nations desire to hold their own against its competition, they must act with the same determination and energy.

The State of Prussia alone, though it does not hold the lead from the point of view of technical education, annually expends in its support the sum of 3,000,000 francs, or £120,000. Apart from what has been done by the municipalities, it has established six special schools for the construction of machines, a school for the bronze industry, another for steel and ironmongery, another for the art of navigation, and schools for the study of pottery, porcelain, and painting on glass. All these schools have been founded under the auspices of the State. It defrays the greater part of their expenses, and the communes bear the rest. But the State institutions form only a part of the technical schools. The greater number of these establishments are the outcome of the joint efforts of associations. The heads of large industrial concerns, alive to the necessity of possessing instructed workers, combine to create a school and sustain it by means of their own subscriptions and aid received from the State. In Prussia, there are 248 schools of this kind, with over 11,000 pupils. These institutions impart training in the small industries. The painters and decorators have 32 of the schools; the shoemakers, 9; the tailors, 16; the bakers, 20; the butchers, 6; the smiths, 26; and so on. Each trade has its schools. The teaching which unites theory and practice is replacing apprenticeship, the value of which is diminishing in Prussia. In the city of Berlin, the provision made for technical instruction is wonderfully complete, the sum of £14,000 a year being disbursed for this purpose. Bavaria, besides its higher schools of architecture, commerce, and art, possesses 45 technical schools, with 2,682 pupils; and each school is divided into sections devoted to particular features of the industry with which it deals. The Kingdom of Würtemberg has several schools in which weaving and kindred arts are taught. At the same time, it is introducing new industries. Teachers are employed for peripatetic courses, and thus the female population of one hundred and twenty communes have been induced to devote themselves to white embroidery. In the same way, a knowledge of the working of sewing machines has been diffused. The machines are sold by the State at large reductions in the prices, on the condition that the purchasers shall show and explain them to their neighbors. The Grand Duchy of Baden, the inhabitants of which number only 1,600,000, spends £56,000 annually in technical education. In addition to its schools of industry, architecture, commerce, and clock making, it has founded schools of cabinetwork and music. These two institutions have been established to insure greater efficiency in connection with the industries which have helped to make the Black Forest districts famous. In the Grand Duchy of Hesse, which has about 1,000,000 inhabitants, there are schools of architecture and sculpture, 9 schools for artisans, 43 for industries, and 82 schools of design. Saxony is at the head of all the German states in technical instruction. The schools in which such instruction is given number 111. All the arts and industries are most effectively taught in them, and there are no less than 10 schools of agriculture and 40 of commerce. It would, indeed, be difficult to find in any part of Europe a system of technical education so perfect as that which prevails in Saxony.

The attempts made to increase the military strength of Germany need not be a source of disquiet or alarm. Militarism is a disease which in the end will cure itself. It involves a burden of debt that necessarily produces irritation and discontent among subjects. We have seen what its effects have already been in Italy. Signor Crispi thought that by keeping up a large standing army he would secure for Italy prestige equal to that of the greatest among the nations of Europe, and that he would himself have as powerful a voice as the German Chancellor or the

Austrian Premier in regulating international affairs. He has learned his folly by bitter practical experience. The country was almost overwhelmed with debt, a battle or two in Africa dissipated his visions, and Italy shook herself free from his influence as from a nightmare, feeling that the military expenditure for which his policy was responsible would, if continued, inevitably sink her in bankruptcy. Germany is in a better position than Italy to bear a heavy military budget, but even there the strain of militarism is keenly felt, and the desire of the governing authorities to increase it is resolutely opposed by the wisest statesmen. The fact is that, were it not for this obstacle, the progress of Germany would have been far more rapid. What other nations have to fear is not the military strength of Germany, but its industrial development, and the advance it has made during the past quarter of a century is such as to justify a lively anxiety. Its soldiers and its armaments are of far less importance than the number of its factories, the extent of its exports, and the success of its commerce. Its technical schools are turning out a magnificent industrial army, and in this sphere of knowledge the countries that compete with it must quickly improve their skill if they are not to see the decline of their prosperity.

TEXTILE HIGH SCHOOL IN BRUNN.

Brunn is to turn its weaving school into a textile high school. This is due to the enterprise, energy, and intelligence of Brunn's Chamber of Commerce. This body believes it the Empire's duty to keep up with others in the capacity to compete. Modern textile concerns call for the very best technically trained help. Recognizing this fact and conscious of the present weaving school's inability to meet the demands, the merchants and manufacturers of Brunn and vicinity voted the change. They saw that the textile branches, just as much as any of the mechanical, call now for specially trained help. The new school is to be modeled after similar schools in Verviers, Reutlingen, Aix la Chapelle, Cottbus, Sorau, Crefeld, Berlin, etc. The course will deal not only with textiles, but it will give, besides, a good general education, including commerce. A great many cities competed for this prize; but Brunn got it (1) because of its central situation, (2) because it had a good weaving school already, and (3) because it is Austria's leading textile center.

The State pledges itself to pay for fitting up the school, putting in machinery, supplies, apparatus, etc., to support it by paying teachers and endowing it in such way as from time to time may be necessary. The local people—*i. e.*, the province or county, the commune, the chamber of commerce, and the manufacturers—must furnish and pay for the site and building. One hundred and twenty thousand florins ($57,600)* are to be put into teaching material, apparatus, etc., by the Empire. Thirty thousand florins ($14,400) have been subscribed by the different industries. A mortgage of 135,000 florins ($64,800) is to rest on the enterprise, to be paid off gradually. The local people have to meet the interest and to pay off this mortgage. It is interesting to note that continued efforts in the direction of better technical schools mark every new movement in the development of all kinds of industries. Austria is emulating Germany, and Germany is making renewed efforts to keep the lead.

---

* In British statistics, the florin is estimated at 48 cents. The gold crown is now the money unit of Austria-Hungary.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *April 1, 1897*.

GERMANY'S GRAIN IMPORTS.

There are those who dream about the German Empire supplying itself with food, especially grain products. This is no longer possible. Germany is a commercial and manufacturing state. Any effort to keep up its agricultural population must be more or less artificial; and success against the United States, South America, and Australia is out of the question. Of course, agriculturists and their friends are unwilling to admit this, but the facts prove it.

The imports and exports of grains for the years 1892 to 1896 were as follows:

Year.	Imports.		Exports.	
	Marks.		*Marks.*	
1892	732,403,000	$174,311,914	51,298,000	$12,208,924
1893	593,265,000	141,197,070	57,967,000	13,796,146
1894	703,656,000	167,470,128	83,469,000	19,865,622
1895	607,768,000	144,648,784	85,409,000	20,327,342
1896	728,281,000	173,330,878	73,225,000	17,427,550

The exports were made up of seeds, clover seed, linseed, potatoes, fruits, and barley. Most of the barley went to Great Britain.

Of the grains imported, there were:

Year.	Wheat.	Rye.	Oats.	Barley.	Maize.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
1892	1,296,000	549,000	879,000	583,000	717,000
1893	703,000	222,000	243,000	852,000	761,000
1894	1,154,000	654,000	403,000	1,097,000	583,000
1895	1,338,000	965,000	239,000	929,000	324,000
1896	1,653,000	1,031,000	495,000	1,028,000	821,000

The amounts vary as the harvests here vary. Then, too, tariffs have had some influence, notably those of Russia in 1893. Russia sent 257,300 tons of wheat in 1892, against 21,636 in 1893. In 1894, after the duties had been reduced from 5 marks to 3.50 marks, Russia sent 280,594 tons.

The Empire took its largest supplies of wheat from the following countries:

Year.	United States.	Roumania.	Argentina.	Russia.
	Tons.	*Tons.*	*Tons.*	*Tons.*
1892	630,213	91,785	66,170	257,300
1893	314,928	143,578	151,396	21,636
1894	323,498	142,952	346,245	280,594
1895	193,594	127,154	263,229	678,203
1896	266,875	319,956	141,603	852,465

The imports of rye were:

From—	1892.	1893.	1894.	1895.	1896.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Russia	123,377	99,255	533,450	841,974	787,971
Roumania	26,817	52,740	88,442	93,843	129,130
Turkey	86,113	19,374	4,405	7,778	12,074
Bulgaria	27,427	198,969	10,776	6,808	21,511
United States	136,129	18,194	5,571	3,060	64,759
France	46,008	7,716	384	....	....
Austria-Hungary	34,358	383	426	....	....

Up to 1893, most of the barley came from Austria-Hungary. Since that year, Russia leads.

Whence.	1892.	1893.	1894.	1895.	1896.
	Tons.	*Tons.*	*Tons.*	*Tons.*	*Tons.*
Austria-Hungary	264,000	373,000	345,000	238,000	346,000
Russia	177,000	249,000	530,000	619,000	500,000
Roumania	77,000	203,000	193,000	46,000	95,000

The United States, which hitherto had sent barley in small quantities, sent 45,521 tons in 1896.

Of all the maize imported, we sent 50 per cent, followed, in their order, by Argentina, Russia, Roumania, and Austria-Hungary. Austria-Hungary sank from 82,884 tons in 1892 to 17,006 in 1896, while Russia reports a constant and important increase.

Thus the sources of Germany's supply are certain. She depends on no one part of the world. She buys where it best suits her purpose to buy. Saxony, that sends us goods worth many millions, buys from us only such articles as can not be bought elsewhere. German talk about retaliation is nonsense.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *April 8, 1897.*

PORCELAIN MAKING IN GERMANY.

Germany manufactures and exports annually many millions' worth of china, earthen, and stone wares. Not only her Berlin and Dresden china, but much of her mountain-made ceramic wares find their way into all foreign parts, even England taking many millions of Thuringian china.* Nor is it the artistic articles alone that are exported, but great quantities of the useful, such as table ware and toilet articles. Berlin's and Dresden's china factories were built up on the firm basis of trained workmen and good goods at fair prices. To the art, industrial-art, and technical schools maintained by both cities not a little of their continued success is due. The aim has been to equal, if not to excel, Sevres, in France. The porcelain of both cities enjoys a popularity due to originality of design, excellence of material, and finish. Stoneware (especially beer mugs, figures, garden ornaments, etc.), majolica, faïence, terra cotta, and mosaic articles are sent out in huge quantities. Porcelain stoves and tiles are also being exported. Much of the Empire's success in these lines is due to the presence of excellent earths, clays, etc., necessary in these branches. Kaolin of the finest grain is found in sufficient quantities. Feldspar, quartz, graphite, and brownstone abound in many parts of the Empire. Reports credit such of the success in tiles to a ring furnace invented, improved, or perfected by one Hoffmann. Not counting the tile makers, Germany has 900 ceramic concerns. Of these, 155 make china ware, 98 stoneware, 142 terra cotta goods, 142 fireproof articles, 197 common pottery, and 236 porcelain stoves. These 900 factories employ 60,000 persons. The 12,500 tile makers employ 254,000 hands.

EXPORTS OF CHINA.

In 1895, the Empire exported 689,114,360 pounds of china, earthen, and other pottery, worth $9,500,000. China leads with $1,893,804, $2,141,562, $2,881,704, and $4,336,360 in 1880, 1885, 1890, and 1895, respectively. These figures do not include china toys, etc., which in 1895 amounted to $793,182; faïence, $1,925,496; glazed roof tiles, $575,140; common brick or clay tiles, $458,182; fireproof tiles from clay, $425,179; common glazed earthenware articles, $277,341; crucibles, fireproof pipes, etc., $85,885..

It is astonishing and interesting to study the ways and means by which the Empire is winning its way, not only with these, but with other wares. Sonneberg, a city situated away up among Thuringia's hills, sends these wares, not only to our country, but to all parts of the world. Sonneberg has only 15,000 inhabitants, yet it has an industrial-art school, in which as good work is done as in any school in the Empire. I went from room to room and wondered at the work. The factories at Meissen (Dresden) may be looked upon as great schools. If to the potteries in New Jersey industrial and industrial-art schools like those of Thuringia were added, much of the china now imported might be made by our own people. I see no good reason why the dolls, toys, etc., made here in homes among the hills might not be made among the mountains of Vermont and New Hampshire and in the forests of the Northwest.

---

*The annual imports of china and earthen ware into the United Kingdom from all Germany amounts to only about $1,000,000.

J. C. MONAGHAN,
Consul.

CHEMNITZ, *April 8, 1897.*

AMERICAN SHEEP IN AUSTRALIA.

On May 10, 1897, Consul Bell sent from Sydney a letter from an Australian importer of sheep, with the suggestion that it be referred to the Department of Agriculture. The consul says that the question of making San Francisco a port of export for blooded sheep is one of considerable importance to breeders, as American merinos are becoming popular in Australia. The consul also incloses a clipping from a leading stock journal, in which the statement is made that the flocks of the colony have become permeated with Vermont sheep. The writer says that, with the conservatism of his race, he had refused to believe that the Vermont sheep had come to stay until he went to the Mudgee show, where the pure type of Australian merino was supposed to be found. The three prizes of the show, one of them the Grand Champion, were won by Vermont sheep. The letter above referred to is as follows:

GEORGE W. BELL,
United States Consul, Sydney.

SIR: We desire to bring to your notice the new regulations under which alone sheep can be imported into this continent from Europe or America.

Up to the close of 1895, all sheep imported into Australia from Europe or America had, in the first instance, to be shipped to England, there to undergo fourteen days' detention in quarantine before shipment on board the steamer or sailing vessel bound for any Australian port. Influenced probably by fear of foot and mouth disease, at the time supposed to be prevalent in Germany, the English Government suspended the admission of sheep from foreign countries to quarantine in England and thus compelled German and American sheep breeders to secure the authorization from the Australian colonies for direct importation. Representations were made to the Government stock department of each colony, which resulted in the nomination of two ports—Hamburg and New York—from which, and from which alone, sheep exportation would be permitted. Instructions were forwarded to the various agents-general for the Australian colonies to make arrangements for the appointment in each of the ports named of a thoroughly competent veterinary surgeon, whose duty it would be to examine the sheep before shipment and to allow none but the thoroughly healthy to go on board, accompanied by a certificate and clean bill of health.

In the selection of Hamburg, made at the suggestion of our Mr. Halge, as the port of shipment for Germany, the importance of the place and its frequent direct steamer communication with Australian ports were no doubt the influencing motives. No better choice could have been made. It was otherwise, however, with New York, which, we need not tell you, has no direct steamer communication with any Australian port. The only port in the United States possessing direct communication with Australia is San Francisco, from which there is a monthly service to and from Sydney.

It naturally occurred to American breeders, when they learned that quarantine in England had been abolished, that they could save themselves the trouble and risk of sending their sheep across the Atlantic and avail themselves of the more expeditious route via San Francisco. Under this impression, a firm in San Francisco, acting on behalf of a Californian and Vermont breeder, cabled us on the 24th of March last to know if a consignment of sheep to be forwarded by the steamer *Monowai* could be landed in Sydney. We had no alternative but to wire back that, under the existing regulations, the sheep could not be landed.

We made every effort by interviewing the chief inspector of stock and his official superior, the Secretary for Mines, to impress upon them the absurdity of depriving American sheep breeders of the chance of availing themselves of the only American port where they could secure direct steamer communication.

Our representations, however, met with the usual "non possumus," and we are therefore constrained to ask you to move in a matter affecting the interests of your fellow-countrymen and the trade between your country and this.

We would ask you, in the first place, to ascertain, if you can, the views of your Eastern breeders; that is to say, whether there is any desire, now that preliminary quarantine has been abolished in Europe and the necessity no longer exists for their sheep to cross the Atlantic, to send their sheep across the continent by rail and to avail themselves of the shorter, milder, and quicker sea route from San Francisco to Sydney. Finally, we would ask you, if the Eastern breeders take this view of the matter, to bring the whole question under the notice of your Government Department of Agriculture with the view of inducing it to make representations to the various Australian colonies to include San Francisco in the list of export ports.

Should, by any chance, your Government Department of Agriculture take up the defense of "shipment via New York" on the ground that sheep might be sent across the Atlantic in summer, when, of course, steamers travel under much more favorable climatic conditions, we would ask you to point out that sheep intended for sale in Australia must of necessity arrive here as near as possible about the middle of June, so as to be inspected undipped before and sold at the annual ram sales held in the first week of July.

You will see from this that shipments via New York would mean crossing the Atlantic at the end of March, when the weather is exceedingly cold and storms more the rule than the exception.

We have, etc., HENRY AUSTIN & CO.

NOTES.

Improvement of the Peiho River.—Minister Denby sends from Peking, under date of May 10, 1897, a translation of a proclamation issued by the viceroy of Chihli relative to measures to be taken to improve the Peiho River. The viceroy says, in part:

> The Haiho (Peiho*) river is formed by the confluence at Tienstin of the Grand Canal, the Seho, the Hunho, and the Ta-ching-ho, and empties into the Gulf of Pechili. The river has become obstructed with silt, so that the tide now barely reaches the foreign settlements, and at some places above Tientsin the land can not be cultivated because of the inundation. When floods occur, the rivers above named are unable to find their way direct to the sea and burst the embankments, entailing great injury to the people. Only a few of the coasting steamers can reach the foreign settlements, which causes loss to the merchants of Tientsin.
>
> It has been ascertained that the silting is due to the weakness of the current. It would be impossible to remedy this by dredging, owing to the masses of silt suspended in the current; the only practicable method for dealing with the difficulty is to close some of the canals, which have been cut in great numbers from both banks, and which counteract the influence of the tide. The canals can be closed by sluices, to be opened only at certain intervals. Certain sections of the river can also be trained, thus enabling the sand to be carried out by the ebb. Above Pei-tang-kao there are sharp bends, which should be cut through to straighten the river. Below Pei-tang-kao, this would not be necessary, as the channel is already of sufficient depth. Wherever these cuts are made, suitable sluices should be erected, both along the Peiho and the canals, to conduct water for the irrigation of the fields.

Minister Denby adds that the work of improvement will be shortly undertaken by the Chinese Government.

Railway Opened in China.—Consul Read writes from Tientsin, April 17, 1897:

A few days ago the Imperial Railway opened for traffic another 40 miles of railroad beyond Shan-hai-Kwan, along the Liaotung Gulf, in the direction of Kin Chou. The terminus of these 40 miles just opened is at Chung-hou-so, on the Lu Chou Ho.† The total length of the railway from Tientsin to Chung-hou-so is nearly 214 miles.

The line from Tientsin to Peking is within a few miles of Peking and will be opened to the public shortly. The Tientsin-Peking extension will add another 80 miles to the present 214 miles in operation.

---

* The river between Tientsin and Taku is called by the Chinese the Haiho, as distinct from the Peiho, which runs from Tungchow to Tientsin.

† Ho means river.

Mr. Kinder informed me that the survey of the Peking-Paoting-fu extension had been completed, and that the throwing up of embankments would soon be begun. This Peking-Paoting-fu extension will add another 80 miles to the system.

A Russian Canal.—Consul Monaghan sends an undated communication from Chemnitz, received by the Department May 26, 1897, in which he says:

A deep and long canal is to be built by Russia to connect the Baltic with the Black Sea. This stupendous project indicates the giant aims of the great Empire. The canal, as projected, is to connect Riga, on the Baltic, with Cherson, on the Dneiper near the Black Sea, is to be 1,000 miles long, 65 meters (213.23 feet) wide at surface, and 35 meters (115 feet) at the base, with a depth of 8.5 meters (27.9 feet). It is to carry easily the biggest battle ships of the world. From Riga, the canal is to run into the River Dvina, thence by canals from Dvinaburg to Lepel, through the Beresina and Dneiper to Cherson. It is further projected to cover all the river regions with such a network of canals as will aid very materially in developing the whole surrounding country. Ships that went hitherto by way of the Atlantic, Mediterranean Sea, and Marmora Sea, taking more than twelve days, will need now less than six days. Basins are to be built near Pinks and harbors at all important points along the canal.

Traffic is to be carried on day and night at a possible or permitted speed of 11 kilometers (about 7 miles) an hour. The cost of the canal is put down at 400,000,000 marks ($95,200,000). Of course, it will cost more than this amount; such huge works always do. It is to be ready for traffic in five years. Germany's interest in this canal is twofold. She sees in it a new need for her iron and steel products; she sees also a possible cheapening of food products. Her eagerness to participate in any and every effort made by her northern neighbor is justified by the large trade, at fair profits, of former years. Surely some, if not all, of the dredging and canal machinery of the United States is much more easily handled and better adapted to such work than are those of this Empire. Even here, the vast superiority of our tools is admitted. The only objection made is to their prices. Is it not possible to make tools cheap enough to more than meet the ones made here? The market in Russia grows more and more interesting. The share we are to have in it will depend upon ourselves.

Electric Tramways in County Dublin.—Under date of May 14, 1897, Consul Ashby writes from Dublin:

The morning papers of to-day announce that the select committee of the House of Lords has passed the bill authorizing the construction of the Hill of Howth electric tramways. The bill was promoted by the Great Northern Railway Company of Ireland. It is proposed to construct an electric tramway, starting at the town of Sutton, situated on the Howth Peninsula, extending around the Hill of Howth to the town of Howth, a distance of about 5½ miles, there to connect with the Great Northern Railway line from Howth Junction to the town of Howth. It is also proposed to convert the Great Northern Railway line from Sutton to Howth into an electric line, so as to give a complete circuit for the electric line. The estimated cost of the work is placed at about $200,000.

Howth is a peninsula lying 9 miles to the northeast of Dublin, connected to the mainland by a low neck of land, and terminating in an abrupt headland rising 560 feet above sea level. The town of Sutton lies at the mainland end of the peninsula, and the town of Howth is situated at the foot of the bluffs on the north side of the headland. The only connection with Dublin at present is by means of the Howth branch of the Great Northern Railway, connecting with the main line at Howth Junction. The Hill of Howth is a great resort for tourists and summer residents. As the present railway lies along the extreme north edge of the peninsula, it affords very imperfect facilities to residents and sightseers.

Raw Silk in Syria.—A letter under date of May 11, 1897, was received from Consul Doyle, of Beirut, asking for the names of firms in the United States engaged in the manufacture of silk goods. The consul says that the request is made at the instance of a Syrian firm engaged in the handling of raw silk. The firm is reliable, and Syrian silk is said to be of exceptionally good quality. Heretofore, the trade has been in the hands of French manufacturers, but at the price now paid, there is left no profit for the native producer. Some 800,000 pounds of reeled silk are produced annually in Syria, a small part of which is shipped unspun to Lyons and Marseilles, and the remainder is spun in the small local factories and is exported in the form of thread. The firm above mentioned controls about 140,000 pounds of raw silk annually and wishes to enter into business relations with the silk manufacturers of the United States. A copy of the letter was sent to Mr. Theodore C. Search, president of the National Association of Manufacturers, Philadelphia, Pa., and the list of names furnished by him was sent to Consul Doyle June 17, 1897.

American Pine in Italy.—Consul Seymour, in a report dated Palermo, May 3, 1897, incloses a translation of an article in the Rivista Agraria, which sharply criticises the American pine imported into Italy. The writer claims that the wood is infected with a fungus (*Merulius lacrymans*) which destroys the fiber and is responsible for serious disasters to buildings in the construction of which pine was used. The fungus, it is stated, lives on the trunk of the pine and on other conifera imported from America. Its presence is difficult of detection by the naked eye, but it develops rapidly, especially in damp places, and the remedies used to prevent its spread have been unsuccessful. Italian and Austrian pine and fir have been infected, but the chestnut resists the attacks of the parasite; and the writer closes by saying that the chestnut will now take that rank in the trade from which it was forced by the competition of the cheaper and more available American pitch pine.

A copy of this report was sent to the Department of Agriculture, and B. E. Fernow, Chief of the Division of Forestry, answers under date of June 21, 1897:

> The statement contained in the Rivista Agraria to the effect that the pitch-pine wood of the United States is particularly liable to the attacks of fungi, and especially of the fungus *Merulius lacrymans*, is contrary to the experience in this country; and the intimation that this fungus is being introduced into Italy by this wood is unfounded, for the fungus existed in Italy before pitch pine was ever known or imported into that country. It is one of the common fungi of Europe, living in buildings and very rarely found in the forest, and, while it occurs also in the United States, is found here much less general and destructive.
>
> Any other coniferous wood, improperly seasoned and placed in the same objectionable surroundings in a building, would have fallen prey to its attacks.

Construction of Railway and Dock in Hull.—On May 20, 1897, Consul Miller sent the following from Hull, which was given to the newspaper press June 2:

Two enterprises of considerable magnitude are on foot in this borough. One of them has been determined on positively, and the work will be let to contract. The plans and specifications (now being drafted by the borough engineer of Hull) will be submitted to the public for bids in about two months. This enterprise is the building and equipping of 10 miles of double-track railway in Hull, on which will be used the overhead system of electrical trams. New material will be used throughout this work. The old horse-car system is the one now in use. The second enterprise is known as the "Hull dock improvement," which is to be undertaken by the Northeastern Railway Company, one of the largest corporations of the kind in Great Britain. This work is also determined on; but, owing to some misunderstanding between the municipal corporation and the railroad people—or, rather, the failure to come to an agreement between them—the matter is now in the hands of a parliamentary committee, with every prospect of a speedy compromise, when the work will be at once begun. When the Northeastern Railway Company took over the docks of the city, they pledged themselves to spend a certain amount of money within a certain period in improving the docks and the channel of the Humber. The amount to be expended is not less than £500,000 ($2,433,250) and may be as much as £800,000 ($3,893,200).

From observation and experience, I am satisfied that the people of the United States excel all other nations in the invention and manufacture of labor-saving machinery; I therefore wish to bring these two large enterprises to the attention of the manufacturers and contractors in the United States. Communications relating to the electric street railway of Hull should be addressed to A. E. White, M. Inst. C. E., borough engineer, Hull, England, and for the Hull dock improvement, communications should be addressed to I. Wolfe Barry, consulting engineer Hull dock improvement, 21 Delahay street, Westminster, London, S. W., England.

My reason for anticipating the publication of plans and specifications for these enterprises by two or three months is the distance and the time consumed in sending and receiving mail. I hope that our manufacturers and business men, being thus early put in communication with the engineers on these works, may not be at a disadvantage.

Walnut Crop in Southern Italy.—The Department has received the following from Commercial Agent Huntington, dated Castellamare di Stabia, June 2, 1897:

Having had some inquiries as to the probable walnut crop for the coming season, I have lately visited the parts of this peninsula where walnuts are grown. After a personal inspection and talking with the growers themselves, I have ascertained that the crop this season will be below the average. The warm weather in April caused the trees to flower well and abundantly in May; but just as the fruit buds were forming, cold rain and wind caused the loss of many of the young buds, and at present the crop may be estimated as inferior to last year, when about 9,076 cases were shipped from Sorrento, Castellamare di Stabia, and Naples to the United States. Our California growers may therefore reckon on high prices for their crop, as there will be less competition than usual from this country.

Russia's Tariff Relations with Germany.—Consul Monaghan writes from Chemnitz, May 25, 1897:

The tariff treaty that was to do so much to secure safe, steady, and mutually beneficial trade relations between Germany and Russia for at least ten years is not a success. Russia regards her interests so greatly endangered that her statesmen grasp every opportunity to so interpret the treaty as to get out of it all the good they can for their own people and to hinder as much as they may imports from Germany. Different decisions of the last year raised the duties on German imports so high that a conference had to be called in Berlin at which the rates were gone over. This had little effect. On August 27, 1896, a regulation did a great deal to damage the book trade. Up to that time, Germany had a large share of this trade. All books in Russian and French, Russian and German, went in duty free. Since then, those printed in Russian, even dictionaries, pamphlets, circulars, catalogues, etc., pay duty. Only such books as are printed in foreign parts in a foreign language are now allowed free entry. Dictionaries, grammars, and similar books, printed usually in two languages—Russian and another—pay now 60 marks ($14.28) per 220 pounds. This is injuring Germany's book trade, which hitherto amounted to 5,000,000 marks ($1,190,000) annually. Thousands of books in Russian and another language, sent formerly from Leipsic, must be printed henceforth in Russia. All kinds of advertising books, pamphlets, circulars, etc., printed in Russian and German must pay duties. Germans can no longer send printed matter by post. This is subject to fine, as the post may not be used for dutiable articles. They must be sent by express (per package post), accompanied by two invoice declarations. One can see how seriously Germany's trade relations with Russia are being impeded.

Foreign Commercial Agents in Sweden.—Under date of May 25, 1897, Consul Monaghan writes from Chemnitz:

Germans, interested as are perhaps no other people in the laws relating to commercial travelers, watch eagerly for every change and record it in commercial papers. Contemplated changes in Sweden's regulations are now being noted. Hitherto, her laws have been severe. Each agent, as soon as he put foot upon her soil, had to get a commercial passport and to pay a tax of 100 crowns ($26.80) per calendar month or for each part of a calendar month. If a man entered Sweden on September 29 and left on October 5, he had to pay 200 crowns. Norway, following Sweden's example, enacted similar regulations. The laws in Sweden had their origin in a desire to keep out the numerous German agents. Partly because of the bother about passports and payments in Norway and partly because the German and French ambassadors at Stockholm have protested on the part of their governments, a reform, having for its object the abolition of the calendar-month evil, has been introduced. The bill has passed one branch of the legislature. Its friends hope to see it a law by July 1, 1897. Commercial travelers from outside are to pay the 100 crowns; but for thirty consecutive days, and not for each calendar month. The passports will be visaed without the formalities of former times. A motion to make Swedes or Norwegians traveling for foreign houses pay a like sum was voted down.

German Exports to Holland.—Consul Monaghan, of Chemnitz, writes, under date of May 26, 1897:

England is much interested in Germany's methods of making headway, not only in remote, but in continental countries. Her consuls report English reverses and German gains in lands where the merchants of the two peoples compete. The imports into Holland for the years named were:

Year.	From England.	From Germany.
1889	£23,600,000	£24,900,000
1890	23,600,000	23,000,000
1891	22,500,000	22,600,000
1892	22,200,000	22,600,000
1893	22,000,000	23,300,000
1894	20,500,000	23,700,000
1895	19,900,000	24,400,000

As causes of Germany's success, the consul at Amsterdam mentions the following: (1) The longer credits granted by Germany, most of England's houses insisting upon cash payments upon receipt of goods; (2) the system of weights and measures, and as long as England abides by her pounds, shillings, and pence and her pound-and-ounce system, she will have trouble with trade on the Continent, where the metric system is in universal and very successful use; (3) the failure of England to properly and intelligently classify goods, especially in the iron and steel branches, in which, again, the metric or decimal system is in vogue. The consul could have added (4) the vast number of traveling agents from Germany who read, write, and speak Dutch. These men go from one end of Holland to the other. They show their goods and give guaranties that stock sent will be equal to, or better than, sample. It is to their methods, more than to anything else, that Germans owe their continued and increasing success.

Iron Felt, a New Invention.—The Department has received the following from Consul Monaghan, dated Chemnitz, May 17, 1897:

Berlin and Leipsic are boasting about a new invention, to be known as iron felt. It is made of the very best woolen materials, impregnated with the inventor's patented preparation, which gives it 2,220 pounds' power of resistance to every square centimeter (0.3937 inch). The article is most useful for railroads of all kinds. Placed between rails and sleepers, it deadens sound and prevents shocks. The first experiments with the new material were made by the Berlin city street railway, over which three hundred and sixty trains pass daily. The results surpassed the company's most sanguine expectation. Not only was the noise brought down to a minimum, but the wear and tear was materially diminished. It is to be tried on the new roads in Leipsic. Old buildings, and particularly buildings of stone and iron, suffer most from the shocks and noise of passing trains. Such an insulating material seems to be specially adapted for elevated roads.

Movement of Agricultural Products in Switzerland.—Consul Germain writes from Zurich, April 27, 1897:

The bulletin just published by the federal custom-house department shows a decrease for the last four months of 1896 in the importation of cattle, as well as a notable decline in prices, resulting from the marketing of surplus stocks raised from those imported subsequent to the drought of 1893. The principal decrease was in beef, mutton, and pork, owing to the poor quality of hay harvested in 1896, which compelled many farmers to sell a portion of their home-raised stocks to butchers. For the same reasons, many heifers and other young animals were sold for export. Compared with the corresponding period of 1895, the meat exports to France have but slightly decreased, while the imports of that article from the same country have materially increased. The imports of frozen meats from the Argentine Republic have been steady, but prices lower.

Imports of canned meats from Chicago, which heretofore showed steady progress, have somewhat declined. The exports of dairy products and prices thereof have been well maintained, as far as cheese and condensed milk are concerned; still, the quantities were slightly under those of 1895. England remains the principal market for condensed milk, while French shipments of soft cheese to Switzerland are on the increase.

The quantity of live and dressed poultry imported from foreign countries, especially from France, has increased. Imports of eggs have risen fully 20 per cent. Austria-Hungary, France, and Italy supply Switzerland with the latter commodity. The exports of fruits have been heavier than in 1895, but much lower than shipments of previous years.

Owing to the poor Swiss vintage, imports of wines have again increased, being 416,000 hectoliters (10,989,888 gallons), as against 410,000 hectoliters in 1895.

Imports of wheat, rye, oats, barley, and corn show a material increase, as well as advanced prices, Roumania furnishing most of the wheat and the Argentine Republic the maize (corn). They have never shipped such large quantities, namely, 134,000 metric centals (13,400 metric tons), as against 84,000 centals (8,400 tons) in 1895.

The poor potato crop caused imports of large quantities from France and Germany. Hay, oil-cake meal, and bran were, owing to the poor hay crop, also largely imported.

Flour imports also increased by 40 per cent over those of 1895, France supplying most all of it at an advance of 3.50 francs per metric cental over prices of 1895 (70 cents per 220 pounds).

The Beer Trade of Switzerland.—Under date of May 18, 1897, Consul Germain, of Zurich, says:

The federal bureau of statistics has just published some interesting figures on the Swiss manufacture and export trade of beer for 1895. The exhibit shows the number of breweries and output per canton to be as follows:

Cantons.	Number of breweries.	Output.	Cantons.	Number of breweries.	Output.
		Gallons.			*Gallons.*
Zurich	28	9,805,000	Geneva		1,669,500
Basle (city)	8	6,254,000	Freyburg		1,457,500
Berne	41	5,141,000	Vaud		1,033,500
Argovie	36	4,902,500	Neufchatel		970,500
St. Gall	49	4,717,000			
Lucerne		2,756,000	Total		38,706,500

Switzerland's beer export is small, and is growing less year by year, as the following figures will show: In 1892, 556,500 gallons; 1893, 530,000 gallons; 1894, 503,500 gallons; 1895, 397,500 gallons. It will be seen, therefore, that Switzerland's beer output for 1895 was 38,706,500 gallons; deducting the 397,500 gallons exported, 38,309,000 gallons were left to be consumed in the country. To this, add 1,667,804 gallons imported from Germany and Austria during 1895, and the grand total consumption of beer in Switzerland foots up 39,976,804 gallons. The population in Switzerland being, in round numbers, 3,000,000, the consumption of beer for 1895 was, therefore, 13½ gallons per capita.

United States Horses in Switzerland.—The following has been received from Consul-General Richman, dated St. Gall, May 26, 1897:

It may be of interest to American dealers in horses to know that Mr. R. Halter, of Rebstein, canton of St. Gall, Switzerland, purchases American horses and finds a ready market for them here. This gentleman makes frequent trips to the United States, returning each time with from twenty-five to eighty horses. He buys mostly in the vicinity of Chicago, dealing directly with the farmers. The horses purchased by him are "half American and half Belgian" large draft animals. These horses command here from $120 to $300.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) were transmitted during the month of June to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
P. B. Spence, Quebec	June 2, 1897	Crop report	Department of Agriculture.
M. H. Twitchell, Kingston	May 31, 1897	do	Do.
L. S. Hunt, Palmerston	June 5, 1897	do	Do.
M. M. Duffie, Winnipeg	May 28, 1897	do	Do.
R. J. Kirk, Copenhagen	May 18, 1897	Grass seeds	Do.
Wm. H. Seymour, Palermo	May 3, 1897	American pine	Do.
Thos. O'Hara, San Juan del Norte.	May 28, 1897	Newspapers in Costa Rica	Bureau of the American Republics.
Charles A. O'Connor, Yarmouth.	June 5, 1897	Agriculture and horticulture.	Department of Agriculture.
E. F. Bishop, Chatham	June 14, 1897	Crop report	Do.
E. Schneegans, Saigon	May 1, 1897	Rice report	Do.
John Karel, St. Petersburg	June 2, 1897	Map showing condition of winter grain.	Do.
A. H. Grimke, Santo Domingo.	May 26, 1897	List of importers and exporters.	Bureau of the American Republics.
E. H. Plumacher, Maracaibo.	June 8, 1897	Soundings of harbors of La Guayra and Puerto Cabello.	Navy Department.
J. S. Benedict, Campbellton.	June 23, 1897	Crop report	Department of Agriculture.
R. L. Miller, Hull	May 10, 1897	Port and dock charges	Treasury Department.
Chas. Shafer, Veracruz	May 29, 1897	Navigation and shipping	Do.
Q. O. Eckford, Kingston	June 1, 1897	do	Do.
C. W. Shepard, Calais	June 17, 1897	do	Do.
E. Whidden, St. Stephen	June 26, 1897	Crop report	Department of Agriculture.

Removal of Duty on Aniline Oil in the Netherlands.—The Department has received the following from Minister Quinby, dated The Hague, May 24, 1897:

By royal order of May 8, 1897, appearing in the Netherlands Gazette of to-day, aniline oil is declared to be exempt from import duty.

No Change in Tariff Laws of Jamaica.—Consul Eckford writes from Kingston, Jamaica, on June 9, 1897, that the legislative council adjourned without altering the tariff laws of the island. The consul adds that a bill had been introduced which would have increased the duties on articles imported from the United States, but it was defeated by the elected members of the council.

FOREIGN REPORTS AND PUBLICATIONS.

French Commerce during the First Four Months of 1897.—Le Commerce de la France, Paris, April, 1897, gives the following figures of French Commerce during the first four months of 1897:

Description.	Imports.		Exports.	
	Francs.		*Francs.*	
Alimentary products	291,359,000	$56,232,287	199,076,000	$38,421,663
Materials for use in the industries	862,358,000	166,435,094	303,553,000	58,585,729
Manufactured objects	209,848,000	40,500,664	614,029,000	118,507,597
Postal packages	....	....	56,534,000	10,911,082
Total	1,363,565,000	263,168,045	1,173,192,000	226,426,056

Comparing these figures with those for the first four months in 1896, says the same publication, we find a decrease of 59,205,000 francs ($11,426,565) in the importation of alimentary products, an increase of 55,174,000 francs ($10,650,582) in materials for use in the industries, and a decrease of 2,846,000 francs ($549,270) in manufactured objects.

There is a decrease in the exports of alimentary products, when compared with the same period in 1896, of 8,037,000 francs ($1,551,141), an increase in the materials for use in the industries of 24,482,000 francs ($4,725,026), a decrease in the exports of manufactured articles of 5,424,000 francs ($1,046,852), and an increase in postal packages to the amount of 4,532,000 francs ($874,676).

In the special commerce with the United States, the total imports for the above-named period amounted to the value of 158,855,000 francs ($30,659,015), and the exports to 92,407,000 francs ($17,834,551). The imports from the United States show an increase, as compared with the preceding year, of $4,671,951. On the other hand, the United States imported from France some $460,000 less than during the same period in 1896. In the imports from France, there is a decrease in nearly all classes; not half as many gloves, for instance, were imported. There is an increase in furs, wines, and perfumery, however, and a notable increase in woolens, of which the import rose from some 600,000 francs in the four months of 1895 to over 1,000,000 francs in 1896, and to some 5,000,000 francs ($965,000) in 1897. In the imports into France from the United States, the most notable increase is in cotton goods, fixed oils, and pure copper.

German Commerce for the First Three Months of 1897.—The Auswärtigen Handel, Berlin, a monthly Government publication, in its edition for March, 1897, gives the following figures relative to German commerce for January, February, and March of this year:

The imports amounted to 1,114,017,000 marks ($265,136,046), an increase of some 55,000,000 marks over 1896. Cotton and cotton goods represented some

100,000,000 marks ($23,800,000) in this total; wool and woolen goods, about 120,000,000 marks ($28,560,000); groceries, drugs, etc., 180,000,000 marks ($42,840,000); grain and products of the soil, about 150,000,000 marks ($35,700,000).

The value of the total exports was 830,168,000 marks ($197,579,924), which shows a decrease of some 24,000,000 marks ($5,712,000) from the figures given for the same period in 1896, but an increase of about 90,000,000 marks ($21,420,000) over 1895.

Lodgings for Workmen in Leipsic.—From a report in the Recueil Consulaire, Brussels, Vol. XCI, 1896, the following is taken:

> The Society for Constructing Cheap Houses for Workmen, of Leipsic, which recently built thirty-five establishments, has constructed four more, and now has thirty-nine houses, valued at 1,627,000 marks ($387,216), with three hundred and sixty-one lodgings for families and thirty-eight for single persons. Since the society desires only 3 per cent returns, lodgings can be rented in its houses at the following rates: Single rooms, 40 to 60 marks ($9.50 to $14.25) per year; apartments consisting of three rooms, from 130 to 160 marks ($31 to $38); of four rooms, 155 to 200 marks ($36 to $47). A small garden costs 15 pfennigs (nearly 4 cents) a week, and 20 pfennigs (about 5 cents) is paid for the care of a child during the day, including meals. Rent is payable weekly, and the deficit caused by delays amounts to only 6 per cent of the total receipts. It is not allowed to subrent the rooms. The proprietor can give a week's notice and the renter three months' notice before changing.

Trusts in Germany.—A writer in the Revue du Commerce Extérieur, Paris, May 1, 1897, speaks of the centralization of industry in Germany. He says that the phenomenon is apparent in every branch of industry and finance of the Empire. The list of associations includes manufacturers of cement, paper, pipes, bottles, articles of leather and jute, etc. Unions among coal miners, spinners, iron workers, ship owners and builders, railways and street-car lines, insurance companies, etc., have been formed. The movement has extended to the banks.

The Economic Situation of the Transvaal in 1896.—The Journal des Débats, Paris, May 29, 1897, has an article on the industrial condition of the Transvaal, in which lengthy quotations are made from a report by Mr. Klimke, of the department of mines, Pretoria. The following paragraphs are taken from his report:

> The gold and coal industries—the only ones worthy of mention—covered, in 1896, 230,800 hectares (577,000 acres). Part of this territory has not enough gold to be remunerative; but only a relatively small part of the mines has been worked. Last year 4,803,033 tons of ore were extracted, with a little less than an average of half an ounce of fine gold to the ton. This is somewhat inferior to that of preceding years, but it must not be concluded in consequence that veins become poorer in proportion to the depth. It has been proven that in the deepest beds (a depth of

over 2,000 feet has been reached) that the variations in the quantity found were purely local. The success of the deep-level mines depends wholly upon economical adminstration and well-organized working.

Aside from the extraction of the quartz for the mills, the work of developing the mines has included, during 1896, the opening of over 500,000 feet of gallery and the sinking of over 2,000 feet in shafts. Nine thousand white men and 64,000 negroes were employed. The machinery represented a force of 138,088 horsepower. The value of this machinery was estimated last year at 133,500,000 francs ($25,765,500), an increase of 21.6 per cent over 1895.

The number of gold mines in which operations were carried on during the whole or a part of 1896 was 185, including 22 deep levels. Of this number, 119 (of which 6 were deep levels), produced gold ore; the others were only in the first stages of development. Seventy-five mines, including 3 deep levels, produced gold.

There are fifteen companies for mining coal. The total product in 1896 was 1,500,000 tons, worth 15,312,500 francs ($2,955,312). The gold mines consumed most of this product. At the end of last year, all the gold and coal mines in the Transvaal represented a nominal capital of over 1,433,000,000 francs ($276,569,000). Of this amount, only 37 per cent was actually invested in the mines.

The production of gold in the Transvaal amounted in 1896 to 215,085,525 francs ($41,521,506)—a figure approaching that of Australia. Dividends approximating 43,750,000 francs ($8,743,750) were paid by twenty-five gold and two coal mines, against 62,500,000 francs in 1895.

The Treasury received from the gold-bearing districts, in 1896, 57,000,000 francs ($11,001,000). Over one-third of this amount came directly from the mines in licenses, taxes, etc. The customs receipts on articles imported into these districts amounted to some 20,000,000 francs. The dynamite monopoly and the railroad receipts must not be omitted. The Government received from the first during the year 1,600,000 francs ($318,000), and from the railroads, 8,000,000 francs ($1,544,000). Of course, the total profits of the railroads did not come from the mines; but the contribution of the mining industry to the general treasury can be calculated at about 48 per cent.

Mr. Klimke calls attention to the fact that in such towns as Johannesburg, Barbeton, and other centers of the gold-bearing districts, there is a large population which does not derive its support directly from the mines. From statistics, it is found that not less than 38,000,000 francs ($7,334,000) worth of cloth was imported, 956,000 gallons of spirits, and more than 1,000,000 pounds of confectionery.

The freight rates on the railroads have been decreased since the second half of 1896. It now costs 3d. (6 cents) to send a ton of coal 11 miles; 11s. 2d. ($2.76) for 100 miles, and 28s. 7d. ($6.20) for 500 miles. During the year 968,000 tons were carried, and the railway received in freight charges on the coal some 9,000,000 francs ($1,737,000).

A monopoly of explosives has existed for some years in the Transvaal, and will last about ten years longer. It was created in order that the dynamite necessary for use in the mines might be of home manufacture, so as to make the chief industry independent of foreign aid. The company, which is composed of French, English, and German capital, has constructed a factory which cost 15,000,000 francs ($2,895,000), and which should produce 200,000 cases of dynamite annually. The high price of labor in the country prevents the factory from competing with foreign manufactures, and a protective tariff has been passed in its favor. A box of dynamite costs 106 francs ($20), while at Cape Colony, Kimberley, etc., where dynamite enters free, the cost is only 81 francs ($15).

Mr. Klimke says that the profits of the mines could be much increased with better management. The dynamite, although expensive, is used wastefully; in one year, 7,500,000 francs ($1,447,500) could be saved in this item alone. There is also a chance to economize in coal without impeding the work. The wages paid to employees are exorbitant, amounting last year to 137,000,000 francs ($28,441,000), of which 75,725,000 francs were paid to white men and 61,275,000 francs to negroes. Reduction in this line could be effected by the substitution of piecework for day work.

A commission has been appointed by the Government to study the industrial situation, with a view to carrying out projected reforms.

Commerce of Natal in 1896.—The Revue du Commerce Extérieur, Paris, June 5, 1897, publishes a report from the French consul at Durban, from which the following extracts are taken:

It may be of interest to review in a general way the commercial and economic progress of Natal since the port has been connected by railway with Johannesburg—that is to say, since the month of December, 1895.

The maritime importations have increased 136 per cent over the figures for 1895; in 1896, they amounted to the value of 135,946,550 francs ($26,237,674), which exceeded by more than 23,000,000 francs the imports for 1889, which, up to that time, had been the best year for commerce. With rare exceptions, all classes of articles contributed to this satisfactory increase—an increase, moreover, that promises to continue and be permanent, unless the port of Lourenço Marquez receives material alterations and improvements.

The maritime exportations, as well as the various products which enter Natal in transit to and from neighboring countries, especially the Transvaal Republic, also show an increase for 1896. The total value of exports during this year amounted to 44,634,375 francs ($8,614,435), nearly 12,000,000 francs more than in 1895. But this progress is almost entirely due to the movement of goods in transit. Nearly all the native products of the colony and of the neighboring countries, such as sugar, tea, fruits, tan bark, skins, and leather, show a noticeable decrease in exports for the year 1896; but these losses, which are due to various causes, such as the cattle plague in the other countries and the invasion of locusts, which has been worse in Natal this year than ever, have been compensated for by the increase in coal, molasses, and wools. French commerce with Natal is growing in a steady and satisfactory manner.

The number of vessels entering the port of Durban in 1896 was 740, of 1,071,196 tons, against 540, of 788,495 tons, in 1895. The merchandise carried rose from 210,191 tons in 1895 to 539,696 tons during the past year. There have been carried 9,795 white passengers, 4,474 Indian immigrants, and 892 negroes, Chinese, and Malays.

It is not necessary to add that the public finances of Natal have profited by the favorable condition of commerce. The net receipts of the railways have risen from 6,193,425 francs ($1,195,331) to 17,855,600 francs ($3,456,130) in 1896, and the customs receipts have increased from 4,875,725 francs ($941,014) to 11,676,250 francs ($2,252,516).

Condition of the South African Gold Mines in 1894.—The Recueil Consulaire, Brussels, Vol. XCI, 1896, has a report from the South African Republic, giving statistics in regard to the production, expenses, etc., of the gold mines. The following table gives an idea of the progress of the mining industry during a year:

Description.		1893.	1894.
Mines	number	154	164
Gold produced	ounces	1,575,398	2,239,865
Value of gold	francs	137,012,425	191,678,800
	dollars	25,543,398	36,994,008
Coal sold	tons	548,347	719,358
Value of coal	francs	6,436,350	8,992,350
	dollars	1,242,215	1,735,523
Steam engines	number	934	1,131
Value of engines	francs	11,788,800	16,791,025
	dollars	2,275,238	3,240,667
Value of all machinery in use	francs	65,695,400	84,258,625
	dollars	12,679,212	16,261,908
Horsepower		25,299	26,219
Crushing mills	number	4,269	4,991
Weight of mills	pounds	3,503,450	4,164,604
Boilers	number	852	1,003
Value of boilers	francs	7,148,925	9,662,775
	dollars	1,379,742	1,864,915
Employees:			
White	number	4,430	5,652
Native	do	32,646	42,504
Dynamite used	cases	68,570	102,550
Value of dynamite	francs	8,547,775	12,086,575
	dollars	1,649,720	2,332,708
Wages paid to white employees	francs	31,312,275	43,286,225
	dollars	6,043,269	8,354,243
Wages paid to native employees	francs	27,521,375	43,704,350
	dollars	5,313,625	8,434,939
Total expenses of mines	francs	113,927,900	153,835,250
	dollars	21,959,084	29,690,203

The average salaries of employees are thus shown:

Employees.	Per month.		Length of working day.	
	Francs.		*Hrs.*	*Min.*
Heads of gangs	795	$153	10	20
Men working with perforators	645	124	9	50
Miners	515	99	9	50
Engineers	605	116	10	30
Firemen	427	82	10	30
Carpenters	615	118	7	55
Smiths	655	126	9	35
Machinists	630	121	9	35
Masons	635	122	9	35
Mechanics	453	85	9	35
Keepers of stores	532	102	9	35
Workmen in charge of the amalgamation	595	115	9	35
Workmen in charge of the cyanuration	620	119	9	35

It will be seen that labor is well paid; but the cost of living is very high.

The total production of gold in the Transvaal in 1894 was 2,265,853 ounces. The quantity exported was 2,129,781 ounces, to the value of 184,251,450 francs ($35,560,527), or an increase of 677,937 ounces over the quantity exported in 1893.

The importance of the gold mines will be seen by a comparison with the product of those of other countries.

Countries.	1893.	1894.
	Ounces.	*Ounces.*
United States	1,739,323	1,923,619
Australasia	....	2,098,572
Transvaal	1,575,398	2,265,853

The total production of the world was valued in 1890 at 575,000,000 francs ($110,975,000); in 1894, it was 900,000,000 francs ($173,700,000). The production of the Transvaal in the last-named year was worth about 200,000,000 francs ($38,600,000), almost five times the amount produced in 1890. The same remarkable increase is noticeable in the report for the first nine months of 1895.

Commerce of the Argentine Republic during 1896.—The Moniteur Officiel du Commerce, Paris, May 6, 1897, gives the following official statistics relative to trade in the Argentine Republic:

The imports in 1896 amounted to the value of 118,121,347 piasters,* ($113,987,011), an increase of some 17,000,000 piasters over the preceding year. The increase was mainly in iron and manufactures thereof, which were imported to the value of 4,868,000 piasters ($4,517,620); in wood and articles thereof, 3,033,000 piasters ($2,926,854); and in chemical and pharmaceutical products, 2,350,000 piasters ($2,267,750). The imports according to countries were, in round numbers:

Countries.	Value.	
	Piasters.	
Germany	13,900,000	$13,413,500
England	44,700,000	43,135,500
France	12,000,000	11,580,000
Italy	11,390,000	10,991,350
United States	11,210,000	10,827,650

Belgium, Brazil, Spain, and other nations follow. There was an increase in English imports of about 4,500,000 piasters; in French imports, nearly 3,000,000 piasters; in German, some 2,800,000 piasters; and in Italian, about 1,000,000 piasters.

The total value of exports in 1896 reached 117,849,855 piasters ($113,730,110), a decrease of over 3,000,000 piasters in comparison with the figures for 1895. This was especially noticeable in live stock. Agricultural products show an increase of 1,700,000 piasters, principally in maize. There was a large decrease in the value of the wheat exported—over 6,000,000 piasters.

As to the destination of the exports, France received to the value of 23,600,000 piasters ($22,774,000); England, 14,300,000 piasters ($13,799,500); Germany, 13,300,000 piasters ($12,834,500); Belgium, 12,000,000 piasters ($11,580,000); Brazil, 9,800,000 piasters ($9,457,000). The United States, Italy, and Uruguay follow in order.

---

* The word piaster is evidently used as the equivalent of peso.

From this general review, it may be seen that the countries which send to the Argentine Republic more than they buy there are England, Italy, and the United States. On the other hand, France, Belgium, and Brazil import more largely than they export. The balance of trade with Germany is about even.

Notes from the Argentine Republic.—The Revue du Commerce Extérieur, Paris, June 5, 1897, says that the works on the port of Buenos Ayres have been entirely finished, and have cost about 100,000,000 francs ($19,300,000). The port has been named Madero, after its promoter.

The sugar industry is threatened with a crisis, in consequence of overproduction. The stock to be exported for the current year exceeds 100,000 tons, while a few years ago, the Argentine Republic was obliged to import the article for home consumption. The planters and refiners have decided to limit the annual production to 120,000 tons.

Commerce of Colombia in 1895.—The Revue du Commerce Extérieur, Paris, April 17, 1897, has the following report:

From the latest official figures relative to the trade of Colombia in 1895, it appears that the imports amounted to 57,035,784 kilograms (125,734,089 pounds), valued at 11,528,365 pesos ($5,413,615), which shows, compared with 1894, a decrease in weight of imports of some 10,000,000 kilograms and an increase in value of 817,000 pesos ($392,160).

During the same period, the exports were as follows: Live animals, 2,482; animal products, 3,538,962 kilograms (7,801,995 pounds); vegetable products, 46,126,926 kilograms (101,691,430 pounds); mineral products, 1,905,233 kilograms (4,198,276 pounds); manufactured articles, 146,683 kilograms (338,997 pounds). Coffee was exported to the value of 8,503,212 pesos ($4,081,441) and to the amount of 21,500,000 kilograms (46,748,900 pounds). The total value of the exportations was 15,088,405 pesos ($7,242,434).

The total amount of commerce, although slightly less than during 1894, may be considered satisfactory, if one remembers that the figures for the customs of Arauca, Meta, Buenaventura, Cucuta, and Tumaco are only partially, if at all, included in the above statement. Business also suffered during 1895 in consequence of the revolution in the Republic. This is the explanation of the fact that the exports decreased, and it was necessary to import salt, although the salt works in Colombia are very productive.

The treasury receipts for 1895 were as follows: Customs receipts, 10,847,966 pesos; salt works, 1,656,263 pesos; slaughter tax, 1,718,844 pesos; tobacco monopoly, 663,126 pesos; stamped paper, 488,161 pesos; other receipts, 868,424 pesos; total, 16,242,784 pesos ($7,796,536).

The Railway Situation in Brazil.—The Bulletin de la Société de Géographie Commerciale, Paris, 1897, Vol. XIX, gives an account of the condition of the railways in Brazil. In 1895, there were 7,078 miles in use, 5,590 miles in process of construction, and plans had been made for some 12,000 miles additional. Of the railway in use, some 1,800 miles belonged to the Federal State. They cost 500,000,000 francs ($96,500,000). The expenses exceeded the receipts, and the deficits were considerable. This condition was due to an unnecessarily large number of employees and to the poor management of the lines, resulting in many delays and accidents. The rolling stock was very poor, only 121 locomotives out of 300 being in condition for use, and hardly one-fourth of the cars. In 1895, an engineer of Brazil offered to take charge of the railroads for a certain indemnity. Arrangements will be completed this year, and the indemnity will amount to 275,000,000 francs ($53,075,000). In 1895, there were 13,000,000 travelers and 750,000 tons of merchandise carried, and the gross receipts were 64,000 milreis ($12,800*) per kilometer (0.62137 mile). The English have charge of over 1,200 miles of railway in Brazil.

Railway Concession in Bolivia.—A paragraph in the Revue du Commerce Extérieur, Paris, June 5, 1897, says that the consul-general of Belgium at Santiago reports that the Bolivian Government has granted the concession for a railway, to start from the port on the Pacific which Bolivia obtained from Chile by a recent treaty. The road will pass through Orouro and end at Cochabamba. Work on the road will be begun three months after the plans are approved, which must be presented within six months after the contract is signed. A length of 75 kilometers (46.6 miles) must be opened to traffic annually. The Government guaranties an interest of 6 per cent on the capital.

Minerals in China.—The London and China Telegraph, London, May 26, 1897, quotes the following paragraphs from the Pall Mall Gazette:

> The appearance of a company for the purpose of gold mining in China is a decided novelty and marks a departure of considerable significance. The country is known to be rich in many and enormously rich in a few minerals. But hitherto little has been done even by the Chinese themselves to develop these valuable resources. Foreigners have, as we know, endeavored to benefit China as well as themselves by the opening up of the country by railways and the establishment of mining and manufacturing industries; but the intense hatred entertained toward Europeans by the official classes has in almost every individual instance defeated these good intentions. What diplomatic pressure, aided by liberal offerings of "palm oil," failed to do during thirty years or more has been accomplished, it would seem, by the issue of the war with Japan. The Government has brought itself—very

---

*Taking the rate of exchange given by Minister Thompson, of Rio de Janeiro, in his report of November 23, 1896.

reluctantly, no doubt—to recognize the advantages of western methods in peace as well as in war; and the necessity of providing more revenue to meet Japan's bill of expenses has probably been impressed upon it forcibly by the European and American ministers at Peking, who have also, we may suppose, pointed out the means whereby this additional revenue may ultimately be secured and the condition of the whole people ameliorated. * * * Hence the numerous railway concessions of which we have heard recently; hence the establishment of a bureau of mines in Hunan, one of the principal coal-producing provinces; and hence, again, among other indications of progress which we need not enumerate, the granting of gold-mining rights to an English syndicate. As to the exact possibilities of China in this latter direction, not much that is definite can be said. Its annual output of gold is estimated, for statistical purposes, at the equivalent of the exports of that metal in the shape of bullion to Great Britain and India. In 1895, the total of these exports was 170,328 ounces. But obviously this can be accepted as no measure of the actual production—it is accepted only in default of more complete details, and because it is the sum that counts in the world's supply, the proportion retained in China being hoarded or converted into articles of personal ornamentation by such as can afford these luxuries.

We have evidence enough, on the authority of European travelers, of the auriferous richness of certain parts of the Chinese Empire. The observations of these gentlemen in loco go to show that a large quantity of gold might be won by the aid of modern machinery. Such gold as is now obtained in the north and in the provinces of Yunnan and Szechuen in the southwest, and of Shansi to the north of the Yellow River and south of the capital, is mined by the most primitive methods, which are inconsistent with the complete extraction of the gold and, consequently, with the most satisfactory returns. Apart from the washings along the Kiu-cha-kiang, which finally becomes the Yangtze Kiang, the gold region of which we know most is that located in the northwest, some portion of which the development company proposes to exploit. If the samples assayed, "from the dumps rejected by the Chinese," on behalf of this company represent anything like an average, it must be allowed that prospects are encouraging. It is certain that long before this syndicate was ever thought of, fair-sized nuggets came down from the "gold mountains" along with the miscellaneous rakings, and it is certain, too, that in spite of the waste by the miners, respectable quantities of gold are brought into Peking every year from the Government's private mines, which are located in the same region. For our own part, we should not expect much from washings. Though many natives up and down contrive to make a living by this means, it is more than doubtful if the deposits from the mountains of Thibet, of which we are told, are large enough to repay an English company for the working of them. The real richness lies in quartz; the only trouble is to come across it, for knowledge happens to be shadowy. It may be said for the English syndicate which is asking the public to subscribe £375,000 that it has plenty of ground to work over, seeing that the concession covers 30,000 square miles. The great drawback consists in the surpassingly bad state of the communications and the remoteness of the district.

An American Contractor in China.—A correspondent writes from Tientsin to the London and China Telegraph, London, May 26, 1897, as follows:

The rail contract fell to Mr. C. D. Jameson, an American civil engineer, who has been for some time resident in Tientsin. His figures were far and away the lowest sent in, and, as he quoted for Carnegie material, he was facile princeps The total value of the two consignments is said to be just under 450,000 taels ($310,950, taking the valuation of the tael on April 1, 1897). As this is the first time American steel has triumphed over European in competition by closed tenders, it has attracted much remark.

American Enterprise in Siam.—The following communication is taken from the London and China Telegraph, London, May 26 1897:

One of the most important, and probably remunerative, concessions that has been granted in Siam for some time past has been signed at Bangkok by the Minister of Finance. The concession in question grants to Mr. L. E. Bennett, an American engineer, the exclusive right to work the concern known as the Siam Electric Light for a period of ten years, with the option of holding the concession and all exclusive rights for an additional ten years at Mr. Bennett's pleasure. The terms of the contract give Mr. Bennett the exclusive right to light Bangkok and suburbs, the latter term being somewhat vaguely extensive. At the present time, the estimated force in use is 30,000 candlepower, which the Siamese will increase to 64,000. The concessionary has also the right to use the machinery for what other purpose he may deem necessary, and to work it day and night. For the above purposes, a local company has been formed with a capital of 100,000 ticals (about $50,000) to make necessary repairs and alterations and increase the efficiency of the concern. This sum was promptly taken up in a few hours by a few local business people, and, judging by the eagerness to obtain shares of 1,000 ticals each, ten times that sum might have readily been covered locally. Such is the confidence in the future of the venture.

The New Tariff of Japan.—The London and China Telegraph, London, May 26, 1897, quotes the Japan Gazette as saying:

The new tariff of Japan is more than a tariff for revenue only; in some cases, it is almost prohibitive. Some of the charges to be put on are difficult to comprehend. Take, for instance, the tax on cycles, which is to be raised to 25 per cent. The Japanese can not manufacture cycles, at least not a cycle worth riding, yet an import duty of 25 per cent is to be paid, which will bring the cost of a good machine up to an almost exorbitant price. Then most of the European drinks, such as whisky and wine, will be mulcted 40 per cent, which must greatly retard the consumption. Still, there is one very important point in connection with the new tariff that ought not to be overlooked. We can not do better than quote from the words of an authority, who writes:

"The statutory tariff fixes the duties to be collected on every article imported into Japan from countries that have not concluded tariff conventions with her, or that are not entitled to the most-favored-nation treatment in regard to the tariff. Spain, Portugal, Greece, and many other countries have no tariff conventions with Japan and no favored-nation clause, in regard to tariff, in their new treaties with this country. The United States, Belgium, Holland, Russia, and others have the favored-nation clause and will get the benefit of the lesser duties on items named in the different mentioned tariffs. There will, therefore, be two columns of figures in the printed general tariff list, showing in the first column the duties on the articles named in the conventional tariffs, and in the second column the duties on the same articles imported from countries that have no tariff convention with Japan, and that are not entitled to favored-nation treatment. For instance, most textile articles are subject to a duty of 10 per cent in the conventional tariff column and to a duty of 15 per cent in the statutory column. The statutory tariff, therefore, includes every dutiable article imported into Japan, not only the items named in the several tariff conventions, but all others not named in those conventions."

Kerosene is not named in any of the tariff conventions, and will be therefore subject to the duty of 10 per cent ad valorem fixed by the statutory tariff. I have also ascertained that the Government only hope to be able to put the new general tariff—both conventional and statutory—into operation on January 1 next, but are not yet prepared to say that they expect to do so.

Commerce of North Borneo in 1896.—The following extract is taken from the London and China Telegraph, London, May 26, 1897:

The British North Borneo Herald publishes the trade returns of that state for 1896. The total imports amount to $1,882,188, against $1,663,906 for 1895. Out of thirty-seven headings, twenty-seven show an increase, treasure coming first, then follow foodstuffs (rice, sugar, vegetables, etc.), machinery and railway material, kerosene and other oils, opium, tobacco, and clothing. The total exports amount to $2,420,234, against $1,962,350 for 1895. Out of thirty-eight headings, twenty-eight show an increase. Tobacco shows the largest, and accounts for one-third of the total increase on exports for the year; 8,700 bales were shipped in 1895, 10,448 in 1896, and it is estimated that the 1896 crop shipped in 1897 will amount to 14,500 bales. Rattans, cutch, timber, gutta, coffee, dried fish, copra, live stock, and gambier come next. The gross volume of trade has increased by over 18 per cent.

VI 990

Vol. LIV. No. 203.

CONSULAR REPORTS.

COLLEGE LIBRARY,
AUG 14 1897

AUGUST, 1897.

COMMERCE, MANUFACTURES, ETC.

[FOR TABLE OF CONTENTS, SEE THIRD PAGE.]

DEPARTMENT OF STATE ★ UNITED STATES OF AMERICA ★

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1897.

PUBLICATIONS OF THE BUREAU OF FOREIGN COMMERCE.[*]

The publications of the Bureau of Foreign Commerce, Department of State, are:

I.—COMMERCIAL RELATIONS, being the annual reports of consular officers on the commerce, industries, navigation, etc., of their districts.

II.—CONSULAR REPORTS, issued monthly, and containing miscellaneous reports from consular officers.

III.—ADVANCE SHEETS, CONSULAR REPORTS, issued for the convenience of the newspaper press, commercial and manufacturing organizations, etc., usually three or four times a month, and containing selected reports of immediate interest.

IV.—EXPORTS DECLARED FOR THE UNITED STATES, issued quarterly, and containing the declared values of exports from the various consular districts to the United States for the preceding three months.

V.—SPECIAL CONSULAR REPORTS, containing series of reports from consular officers on particular subjects, made in pursuance to instructions from the Department.

Following are the special publications issued by the Bureau prior to 1890:

Labor in Europe, 1878, one volume; Labor in Foreign Countries, 1884, three volumes; Commerce of the World and the Share of the United States Therein, 1879; Commerce of the World and the Share of the United States Therein, 1880–81; Declared Exports for the United States, First and Second Quarters, 1883; Declared Exports for the United States, Third and Fourth Quarters, 1883. Cholera in Europe in 1884, 1885; Trade Guilds of Europe, 1885; The Licorice Plant, 1885; Forestry in Europe, 1887; Emigration and Immigration, 1885–86 (a portion of this work was published as CONSULAR REPORTS No. 76, for the month of April, 1887); Rice Pounding in Europe, 1887; Sugar of Milk, 1887; Wool Scouring in Belgium, 1887; Cattle and Dairy Farming in Foreign Countries, 1888 (issued first in one volume, afterwards in two volumes); Technical Education in Europe, 1888; Tariffs of Central America and the British West Indies, 1890.

The editions of all these publications except Tariffs in Central America, etc., are exhausted and the Department is, therefore, unable to supply copies.

In 1890, the Department decided to publish reports on special subjects in separate form, to be entitled SPECIAL CONSULAR REPORTS. There are now the following SPECIAL CONSULAR REPORTS:

Vol. 1 (*1890*).—Cotton Textiles in Foreign Countries, Files in Spanish America, Carpet Manufacture in Foreign Countries, Malt and Beer in Spanish America, and Fruit Culture in Foreign Countries.

Vol. 2 (*1891*).—Refrigerators and Food Preservation in Foreign Countries, European Emigration, Olive Culture in the Alpes Maritimes, and Beet Sugar Industry and Flax Cultivation in Foreign Countries.

Vol. 3 (*1891*).—Streets and Highways in Foreign Countries.

Vol. 4 (*1892*).—Port Regulations in Foreign Countries.

Vol. 5 (*1892*).—Canals and Irrigation in Foreign Countries.

Vol. 6 (*1892*).—Coal and Coal Consumption in Spanish America, Gas in Foreign Countries, and India Rubber.

Vol. 7 (*1892*).—The Slave Trade in Foreign Countries and Tariffs of Foreign Countries.

Vol. 8 (*1892*).—Fire and Building Regulations in Foreign Countries.

Vol. 9 (*1892 and 1893*).—Australian Sheep and Wool and Vagrancy and Public Charities in Foreign Countries.

Vol. 10 (*1894*).—Lead and Zinc Mining in Foreign Countries and Extension of Markets for American Flour.

Vol. 11 (*1894*).—American Lumber in Foreign Markets.

Vol. 12 (*1895*).—Highways of Commerce.

Vol. 13 (*1896 and 1897*).—Money and Prices in Foreign Countries.

Of these SPECIAL CONSULAR REPORTS, American Flour, Australian Sheep and Wool, Canals and Irrigation, Cotton Textiles in Foreign Countries, Files in Spanish America, Fire and Building Regulations, Fruit Culture in Foreign Countries, Malt and Beer in Spanish America, Port Regulations, Refrigerators and Food Preservation, Streets and Highways in Foreign Countries, and Tariffs in Foreign Countries are exhausted and no copies can be supplied by the Department.

Of the monthly CONSULAR REPORTS, many numbers are exhausted or so reduced that the Department is unable to accede to requests for copies. Of the publications of the Bureau available for distribution, copies are mailed to applicants without charge. In view of the scarcity of certain numbers, the Bureau will be grateful for the return of any copies of the monthly or special reports which recipients do not care to retain. Upon notification of willingness to return such copies, the Department will forward franking labels to be used in lieu of postage in the United States, Canada, the Hawaiian Islands, and Mexico.

Persons receiving CONSULAR REPORTS regularly, who change their addresses, should give the old as well as the new address in notifying the Bureau of the fact.

In order to prevent confusion with other Department bureaus, all communications relating to consular reports should be carefully addressed, "Chief, Bureau of Foreign Commerce, Department of State, Washington, U. S. A."

---

[*] **Formerly Bureau of Statistics. See the order of the Secretary of State (next page) directing the change of name.**

THE BUREAU OF FOREIGN COMMERCE.

From and after July 1, 1897, the Bureau of Statistics, Department of State, will be known as the Bureau of Foreign Commerce, in accordance with the following order of the Secretary of State:

DEPARTMENT OF STATE,
Washington, July 1, 1897.

Under the authority conferred upon me by chapter 268, United States Statutes at Large, Fifty-fourth Congress, second session, under the heading "Publication of Diplomatic, Consular, and other commercial reports," the name of the Bureau of Statistics of this Department is hereby changed to the Bureau of Foreign Commerce, and the title of the Chief of the Bureau of Statistics shall hereafter be Chief of the Bureau of Foreign Commerce.

JOHN SHERMAN,
Secretary of State.

The reasons for the change are set forth in the following report from the Chief of the Bureau of Statistics to the Secretary of State:

DEPARTMENT OF STATE,
Washington, June 30, 1897.

Honorable JOHN SHERMAN,
Secretary of State.

SIR: I have the honor to call your attention to the clause in the diplomatic and consular appropriation bill for the fiscal year ending June 30, 1898, approved February 20, 1897, which provides for the publication of diplomatic, consular, and other commercial reports. (See page 590, United States Statutes at Large, Fifty-fourth Congress, second session.) The paragraph reads as follows:

> Preparation, printing, publication, and distribution, by the Department of State, of the diplomatic, consular, and other commercial reports, twenty-five thousand dollars; and of this sum the Secretary of State is authorized to use not exceeding three thousand one hundred and twenty dollars for services of employees in the Bureau of Statistics, Department of State, in the work of compiling and distributing such reports, and not exceeding two hundred and fifty dollars in the purchase of such books, maps, and periodicals as may be necessary to the editing of diplomatic, consular, and other commercial reports: Provided, That all terms of measure, weight, and money shall be reduced to, and expressed in, terms of the measure, weight, and coin of the United States, as well as in the foreign terms; that each issue of consular reports shall not exceed seven thousand copies: And provided further, That the Secretary of State be, and he is hereby, authorized to change the

name of the Bureau of Statistics to the Bureau of Foreign Commerce, and that the foregoing provision shall apply with the same force and effect to the Bureau of Foreign Commerce as to the Bureau of Statistics.

You will perceive that the Secretary of State is authorized by the foregoing to change the name of the Bureau of Statistics of this Department to the Bureau of Foreign Commerce, and that the provision for the maintenance of the Bureau of Statistics is made to apply with the same force and effect to the Bureau of Foreign Commerce. As the appropriation becomes available on the 1st of July, I respectfully ask authority from you to carry the legislation specified into effect. The reasons for making the change, as stated to Congress and approved by that body, are:

(1) The confusion arising from the fact that there are three bureaus of statistics in the Executive Departments, viz:

Bureau of Statistics, Department of State;
Bureau of Statistics, Treasury Department;
Division of Statistics, Department of Agriculture.

Shortly after taking charge of this Bureau, I became impressed with the fact that the general public was unable to discriminate between the various bureaus of the same name, and that unnecessary labor and delay resulted.

(2) The name Bureau of Statistics does not properly denote the functions of this Bureau, which is exclusively commercial in its character, its work being that of collecting, compiling, and distributing the commercial reports of our diplomatic and consular officers. There is a wide range of statistics with which the Bureau has nothing to do, and its designation as a Bureau of Statistics is, therefore, misleading. The use of the words Bureau of Foreign Commerce, on the other hand, besides correctly indicating the character of the work, is likely, in my judgment, to impress upon the public mind the importance of the commercial functions of this Department.

In view of these considerations, I submit the draft of an order for your signature.

Respectfully yours,

FREDERIC EMORY,
Chief, Bureau of Statistics.

AUG 14 1897

CONTENTS.

Page.
I.—The Chinese Oil Tree.. 477
(Shanghai, 477—Canton, 478—Hankow, 480—Chungking, 482.)
II.—Chinese Insect White Wax..................................*Smithers* 484
III.—Papyrolith and Other Artificial Flooring............*Monaghan* 490
IV.—Bicycles in Germany.. *de Kay* 493
Monaghan 495
V.—Bicycles in Russia...*Karel* 496
VI.—The Bicycle Trade in New South Wales.........................*Bell* 498
VII.—Bicycles in Nicaragua...*Wiesike* 502
VIII.—American Machines in Germany..................................*Stern* 503
IX.—German Credit Associations...*Muth* 504
X.—Seamen's Bureau of Hamburg.................................*Robertson* 511
XI.—Swiss Postal Telegraphs.......................................*Ridgely* 517
XII.—Samples Exhibition of Stuttgart............................*Johnson* 519
XIII.—New Channel for German Emigration...........................*Stern* 521
XIV.—Beet-Sugar Factory Sites..*Muth* 524
XV.—Damascus Gun Barrels..*Gilbert* 526
XVI.—Prices of the Principal Articles in Russia.................*Karel* 528
XVII.—Law of Limitation in the United Kingdom..................*Taney* 531
XVIII.—Industries in the Free Port of Hamburg..............*Robertson* 533
XIX.—Industries in the Free Port of Copenhagen.................*Kirk* 540
XX.—Labor Bureaus in the Netherlands............................*Quinby* 543
XXI.—Industrial Centralization in Europe................................... 546
XXII.—European Electric Street Railways.......................*Germain* 549
XXIII.—Retail Trades Inquiry at Ghent...............................*Morris* 551
XXIV.—Financial Crisis in Nicaragua.............................. 554
Wiesike
XXV.—Tobacco Monopoly in Nicaragua.............................. 555
XXVI.—Banana Cultivation in Nicaragua.............................. 556
XXVII.—Banana Trade of Colombia.................................... *O'Hara* 564
XXVIII.—Public Lands in Nicaragua.................................... 565
XXIX.—Recent Legislation in Honduras..................................*Little* 566
XXX.—A New Railway in Venezuela...............................*Plumacher* 568
XXXI.—Foreign Wines and Beer in Uruguay................... 570
XXXII.—Glass and Glassware in Uruguay..................... *Schramm* 571
XXXIII.—Grape Culture in Uruguay................................ 574

Page.

XXXIV.—NOTES (Prohibition of Margarin in Martinique—Tax on Rubber Shipped from San Juan del Norte—Opening for Machinery in Belize—Light Beers and Ales in Chile—Coal Mines in Colombia—American Horses for Germany—Projected Naval Station in the Falkland Islands—Importation of Dogs into Great Britain—European Emigration—German Exports to Japan in 1896—German Exports to Brazil—Electric Street Railway at Ghent—Report upon Prevention of Storms—Preservation of Fresh Grapes and Seed Potatoes in Italy—Bicycle Trade in Malta—Revision of Tariff Valuations in India—Possible Steamship Service between New York and Tangier—Consular Reports Transmitted to Other Departments—Hebrew Colonies in Palestine)........ 578

XXXV.—FOREIGN REPORTS AND PUBLICATIONS (Commerce of Bulgaria in 1896—Commerce of Portugal in 1895—Details of Portuguese Commerce in 1894—Commercial Condition of Switzerland in 1896—Foreign Commerce of Finland in 1894—Production of Gold and Platinum in Russia in 1895—Commerce of the Ivory Coast—Rubber in Tonkin—Industrial Condition of the Philippine Islands—Condition of Uruguay in 1895—Foreign Commerce of Uruguay in 1896—Commerce of Santo Domingo in 1895—Commerce of Ecuador in 1894—Imports into Ecuador in 1893—Agricultural Condition of French Guiana)........ 591

REPORTS BY COUNTRIES.

BELGIUM: Page.

Damascus gun barrels of 526
Electric street railway at Ghent 585
Retail trades inquiry at Ghent 551

BRAZIL:

Imports from Germany 585

BRITISH HONDURAS:

Opening for machinery in 579

CHILE:

Light beers and ales in 579

CHINA:

Insect white wax of 484
The Chinese oil tree 477

COLOMBIA:

Banana trade of 564
Coal mines in 580

DENMARK:

Industries in the free port of Copenhagen 540

EUROPE:

Electric street railways in 549
Emigration from 583
Industrial centralization in 546

FALKLAND ISLANDS:

Projected naval station in 582

GERMANY:

American horses for 581
American machines in 503
Beet-sugar factory sites in 524
Bicycles in 493
Credit associations in 504
Exports to Brazil 585
Exports to Japan in 1896 584
Industries in the free port of Hamburg 533
New channel for emigration from 521
Papyrolith and other artificial flooring in 490
Samples exhibition of Stuttgart 519
Seamen's bureau of Hamburg 511

GREAT BRITAIN:

Importation of dogs into 583

HONDURAS:

Recent legislation in 566

INDIA:

Revision of tariff valuations in 587

ITALY:

Preservation of fresh grapes and seed potatoes in 586

Page.
JAPAN:
  Imports from Germany in 1896 ... 584
MALTA:
  Bicycle trade in ... 587
MARTINIQUE:
  Prohibition of margarin in ... 578
MOROCCO:
  Possible steamship service between New York and Tangier ... 588
NETHERLANDS:
  Labor bureaus in ... 543
NEW SOUTH WALES:
  The bicycle trade in ... 498
NICARAGUA:
  Banana cultivation in ... 556
  Bicycles in ... 502
  Financial crisis in ... 554
  Public lands in ... 565
  Tax on rubber shipped from San Juan del Norte ... 579
  Tobacco monopoly in ... 555
PALESTINE:
  Hebrew colonies in ... 589
RUSSIA:
  Bicycles in ... 496
  Prices of the principal articles in ... 528
SWITZERLAND:
  Postal telegraphs of ... 517
  Report upon prevention of storms ... 586
UNITED KINGDOM:
  Law of limitation in ... 531
UNITED STATES:
  Possible steamship service between New York and Tangier ... 588
URUGUAY:
  Foreign wines and beer in ... 570
  Glass and glassware in ... 571
  Grape culture in ... 574
VENEZUELA:
  A new railway in ... 568

Full directions for binding the Consular Reports are given in No. 131, page 663.

VALUES OF FOREIGN COINS.

The following statements show the valuation of foreign coins, as given by the Director of the United States Mint and published by the Secretary of the Treasury, in compliance with the first section of the act of March 3, 1873, viz: "That the value of foreign coins, as expressed in the money of account of the United States, shall be that of the pure metal of such coin of standard value," and that "the value of the standard coins in circulation of the various nations of the world shall be estimated annually by the Director of the Mint, and be proclaimed on the 1st day of January by the Secretary of the Treasury."

In compliance with the foregoing provisions of law, annual statements were issued by the Treasury Department, beginning with that issued on January 1, 1874, and ending with that issued on January 1, 1890. Since that date, in compliance with the act of October 1, 1890, these valuation statements have been issued quarterly, beginning with the statement issued on January 1, 1891.

These estimates "are to be taken (by customs officers) in computing the value of all foreign merchandise made out in any of said currencies, imported into the United States."

The following statements, running from January 1, 1874, to April 1, 1897, have been prepared to assist in computing the proper values in American money of the trade, prices, values, wages, etc., of and in foreign countries, as given in consular and other reports. The series of years are given so that computations may be made for each year in the proper money values of such year. In hurried computations, the reductions of foreign currencies into American currency, no matter for how many years, are too often made on the bases of latest valuations. When it is taken into account that the ruble of Russia, for instance, has fluctuated from 77.17 cents in 1874 to 37.4 cents in April, 1897, such computations are wholly misleading. All computations of values, trade, wages, prices, etc., of and in the "fluctuating-currency countries" should be made in the values of their currencies in each year up to and including 1890, and in the quarterly valuations thereafter.

To meet typographical requirements, the quotations for the years 1876, 1877, 1879, 1881, and 1882 are omitted, these years being selected as showing the least fluctuations when compared with years immediately preceding and following.

To save unnecessary repetition, the estimates of valuations are divided into three classes, viz, (A) countries with fixed currencies, (B) countries with fluctuating currencies, and (C) quarterly valuations of fluctuating currencies.

A.—*Countries with fixed currencies.*

The following official (United States Treasury) valuations of foreign coins do not include "rates of exchange." It follows, therefore, that when foreign money orders are required, the post-office authorities, to save the Department from incurring loss in such transactions, add the rate of exchange to these valuations.

Countries.	Standard.	Monetary unit.	Value in terms of United States gold.	Coins.
Argentine Republic*.	Gold and silver..	Peso..................	$0.96,5	Gold—Argentine ($4.82,4) and ½ Argentine; silver—peso and divisions.
Austria-Hungary†.....	Gold	Crown..............	.20,3	Gold—20 crowns ($4.05,2) and 10 crowns.
Belgium	Gold and silver..	Franc...............	.19,3	Gold—10 and 20 franc pieces; silver—5 francs.
Brazil......................	Gold	Milreis..............	.54,6	Gold—5, 10, and 20 milreis; silver—½, 1, and 2 milreis.
British North America (except Newfoundland).	........do	Dollar..............	1.00	
Chile.......................	Gold	Peso..................	.36,5	Gold—escudo ($1.25), doubloon ($3.65), and condor ($7.30); silver—peso and divisions.
Cuba	Gold and silver..	........do	.92,6	Gold—doubloon ($5.01,7); silver—peso.
Denmark..................	Gold	Crown..............	.26,8	Gold—10 and 20 crowns.
Egypt......................	........do	Pound (100 piasters).	4.94,3	Gold—10, 20, 50, and 100 piasters; silver—1, 2, 10, and 20 piasters.
Finland....................	........do	Mark.................	.19,3	Gold—10 and 20 marks ($1.93 and $3.85,9).
France	Gold and silver..	Franc...............	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Germany..................	Gold	Mark.................	.23,8	Gold—5, 10, and 20 marks.
Great Britain............	........do	Pound sterling...	4.86,6½	Gold—sovereign (pound sterling) and half sovereign.
Greece.....................	Gold and silver..	Drachma...........	.19,3	Gold—5, 10, 20, 50, and 100 drachmas; silver—5 drachmas.
Haiti	........do	Gourde..............	.96,5	Silver—gourde.
Italy..........................	........do	Lira	.19,3	Gold—5, 10, 20, 50, and 100 lire; silver—5 lire.
Liberia	Gold	Dollar..............	1.00	
Netherlands‡............	Gold and silver..	Florin	.40,2	Gold—10 florins; silver—½, 1, and 2½ florins.
Newfoundland	Gold	Dollar..............	1.01,4	Gold—$2 ($2.02,7).
Portugal..................	........do	Milreis..............	1.08	Gold—1, 2, 5, and 10 milreis.
Spain.......................	Gold and silver..	Peseta..............	.19,3	Gold—25 pesetas; silver—5 pesetas.
Sweden and Norway.	Gold	Crown..............	.26,8	Gold—10 and 20 crowns.
Switzerland	Gold and silver..	Franc...............	.19,3	Gold—5, 10, 20, 50, and 100 francs; silver—5 francs.
Turkey	Gold	Piaster..............	.04,4	Gold—25, 50, 100, 200, and 500 piasters.
Venezuela................	Gold and silver..	Bolivar..............	.19,3	Gold—5, 10, 20, 50, and 100 bolivars; silver—5 bolivars.

---

* In 1874 and 1875, the gold standard prevailed in the Argentine Republic. Its currency does not appear in the statements again until 1883, when the double standard prevailed, and the peso attained a fixed value of 96.5 cents.

† On reference to the table of "fluctuating currencies," it will be seen that Austria had the silver standard up to and including the quarter ended July 1, 1892. The next quarter (October 1) inaugurated the gold standard (see note under table of "fluctuating currencies").

‡ The Netherlands florin, as will be seen in the "fluctuating" table, became fixed in value (40.2 cents) in 1880.

B.—*Countries with fluctuating currencies, 1874–1890.*

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on January 1—					
			1874.	1875.	1878.	1880.	1883.	1884.
Austria-Hungary*	Silver	Florin	$0.47,6	$0.45,3	$0.45,3	$0.41,3	$0.40,1	$0.39,8
Bolivia	do	Dollar until 1890; boliviano thereafter.	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Central America	do	Peso	.96,5	.91,8	.91,8	.83,6	....	....
China	Silver	Haikwan tael	1.61	1.61	....	....	....	....
Colombia	do	Peso	.96,5	.96,5	.96,5	.83,6	.81,2	.80,6
Ecuador	do	do	.96,5	.91,8	.91,8	.83,6	.81,2	.80,6
Egypt†	Gold	Pound (100 piasters).	....	....	4.97,4	4.97,4	4.90	4.90
India	Silver	Rupee	.45,8	.43,6	.43,6	.39,7	.38,6	.38,3
Japan	Gold	Yen	.99,7	.99,7	.99,7	.99,7	....	....
	Silver		....	....	....	....	.87,6	.86,9
Mexico	do	Dollar	1.04,7½	.99,8	.99,8	.90,9	.88,2	.87,5
Netherlands‡	Gold and Silver.	Florin	.40,5	.38,5	.38,5	.40,2	....	....
Peru	Silver	Sol	.92,5	.91,8	.91,8	.83,6	.81,2	.80,6
Russia	do	Ruble	.77,17	.73,4	.73,4	.66,9	.65	.64,5
Tripoli	do	Mahbub of 20 piasters.	.87,09	.82,9	.82,9	.74,8	.73,3	.72,7

Countries.	Standard.	Monetary unit.	Value in terms of the United States gold dollar on Janury 1—					
			1885.	1886.	1887.	1888.	1889.	1890.
Austria-Hungary*	Silver	Florin	$0.39,3	$0.37,1	$0.35,9	$0.34,5	$0.33,6	$0.42
Bolivia	do	Dollar until 1880; boliviano thereafter.	.79,5	.75,1	.72,7	.69,9	.68	.85
Central America	do	Peso	....	....	....	.69,9	.68	.85
Colombia	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Ecuador	do	do	.79,5	.75,1	.72,7	.69,9	.68	.85
Egypt†	Gold	Pound (100 piasters).	4.90	4.90	4.94,3	4.94,3	4.94,3	4.94,3
India	Silver	Rupee	.37,8	.35,7	.34,6	.32,2	.32,3	.40,4
Japan	Gold	Yen	....	....	.99,7	.99,7	.99,7	.99,7
	Silver		.85,8	.81	.78,4	.75,3	.73,4	.91,7
Mexico	do	Dollar	.86,4	.81,6	.79	.75,9	.73,9	.92,3
Peru	Silver	Sol	.79,5	.75,1	.72,7	.69,9	.68	.85
Russia	do	Ruble	.63,6	.60,1	.58,2	.55,9	.54,4	.68
Tripoli	do	Mahbub of 20 piasters.	.71,7	.67,7	.65,6	.63	.61,4	.76,7

* The silver standard prevailed in Austria-Hungary up to 1892. The law of August 2 of that year (see CONSULAR REPORTS, No. 147, p. 623) established the gold standard.

† The Egyptian pound became fixed in value at $4.94,3 in 1887.

‡ The Netherlands florin fluctuated up to the year 1880, when it became fixed at 40.2 cents.

C.—*Quarterly valuations of fluctuating currencies.*

Countries.	Monetary unit.	1894.				1895.			
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.	July 1.	Oct. 1.
Bolivia	Silver boliviano.	$0.51,6	$0.46,5	$0.45,7	$0.46,4	$0.45,5	$0.44,1	$0.48,6	$0.48,6
Central America.	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
China*	Shanghai tael	.76,2	.68,6	.67,6	.68,5	.67,3	.65,2	.71,8	.71,8
	Haikwan tael	.84,9	.76,5	.75,3	.76,3	.74,9	.75,6	.80	.80
	Tientsin tael	....	....	....	.72,7	.71,4	.69,2	.76,1	.76,2
	Chefoo tael	....	....	....	.71,7	.70,4	.68,3	.75,1	.75,2
Colombia	Silver peso	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Ecuador	do	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
India	Silver rupee	.24,5	.22,1	.21,7	.22	.21,6	.21	.23,1	.23,1
Japan†	Silver yen	.55,6	.50,1	.49,3	.50	.49,1	.47,6	.52,4	.52,4
Mexico	Silver dollar	.56	.50,5	.49,7	.50,4	.49,5	.47,9	.52,8	.52,8
Persia	Silver kran	....	....	....	....	....	....	.08,9	.09
Peru	Silver sol	.51,6	.46,5	.45,7	.46,4	.45,5	.44,1	.48,6	.48,6
Russia‡	Silver ruble	.41,3	.37,2	.36,6	.37,1	.36,4	.35,3	.38,9	.38,9
Tripoli	Silver mahbub	.46,5	.41,9	.41,3	.41,8	.41,1	.39,8	.43,8	.43,8

Countries.	Monetary unit.	1896.				1897.	
		Jan. 1.	April 1.	July 1.	Oct. 1.	Jan. 1.	April 1.
Bolivia	Silver boliviano.	$0.49,1	$0.49,3	$0.49,7	$0.49	$0.47,4	$0.46,8
Central America	Silver peso	.49,1	.49,3	.49,7	.49	.47,4	.46,5
China*	Amoy tael	....	....	....	.79,3	.76,7	.75,7
	Canton tael	....	....	....	.79	.76,5	.75,5
	Chefoo tael	.75,9	.76,3	.76,9	.75,8	.73,3	.72,4
	Chinkiang tael	....	....	....	.77,4	.74,9	.73,9
	Fuchau tael	....	....	....	.73,3	.70,9	.70
	Haikwan tael	.80,8	.81,2	.81,9	.80,6	.78	.77
	Hankow tael	....	....	....	.74,2	.71,7	.70,8
	Ningpo tael	....	....	....	.76,2	.73,7	.72,8
	Niuchwang tael	....	....	....	.74,3	.71,9	.71
	Shanghai tael	.72,5	.72,9	.73,5	.72,4	.70	.69,1
	Swatow tael	....	....	....	.73,2	.70,8	.69,9
	Takao tael	....	....	....	.79,8	.77,2	.76,2
	Tientsin tael	.76,9	.77,3	.78	.76,8	.74,3	.73,4
Colombia	Silver peso	.49,1	.49,3	.49,7	.49	.47,4	.46,8
Ecuador	do	.49,1	.49,3	.49,7	.49	.47,4	.46,8
India	Silver rupee	.23,3	.23,4	.23,6	.23,3	.22,5	.22,2
Japan†	Silver yen	.52,9	.53,2	.53,2	.52,8	.51,1	.50,5
Mexico	Silver dollar	.53,3	.53,6	.54	.53,2	.51,5	.50,8
Persia	Silver kran	.09	.09,1	.09,2	.09	.08,7	.08,6
Peru	Silver sol	.49,1	.49,3	.49,7	.49	.47,4	.46,8
Russia‡	Silver ruble	.39,3	.39,5	.39,8	.39,2	.37,9	.37,4
Tripoli	Silver mahbub	.44,3	.44,5	.44,9	.44,2	....	....

* China (silver). The haikwan tael is the customs tael, and the Shanghai tael that used in trade. Consul-General Denny (CONSULAR REPORTS No. 43, p. 516) says: "The value of the tael varies in the different ports of China, and every port has two taels, one being the Government, or haikwan, tael, in which all duties have to be paid, and the other the market tael." The "British dollar" has the same legal value as the Mexican dollar in Hongkong, the Straits Settlements, and Labuan.

† Gold is the nominal standard in Japan, but silver is practically the standard. The fixed value of the gold yen is 99.7 cents.

‡ The gold ruble is valued at 77.2 cents. Silver is the nominal standard, but paper is the actual currency, and its depreciation is measured by the gold standard.

FOREIGN WEIGHTS AND MEASURES.

The following table embraces only such weights and measures as are given from time to time in CONSULAR REPORTS and in Commercial Relations:

Foreign weights and measures, with American equivalents.

Denominations.	Where used.	American equivalents.
Almude	Portugal	4.422 gallons.
Ardeb	Egypt	7.6907 bushels.
Are	Metric	0.02471 acre.
Arobe	Paraguay	25 pounds.
Arratel or libra	Portugal	1.011 pounds.
Arroba (dry)	Argentine Republic	25.3175 pounds.
Do	Brazil	32.38 pounds.
Do	Cuba	25.3664 pounds.
Do	Portugal	32.38 pounds.
Do	Spain	25.36 pounds.
Do	Venezuela	25.4024 pounds.
Arroba (liquid)	Cuba, Spain, and Venezuela	4.263 gallons.
Arshine	Russia	28 inches.
Arshine (square)	do	5.44 square feet.
Artel	Morocco	1.12 pounds.
Baril	Argentine Republic and Mexico	20.0787 gallons.
Barrel	Malta (customs)	11.4 gallons.
Do	Spain (raisins)	100 pounds.
Berkovets	Russia	361.12 pounds.
Bongkal	India	832 grains.
Bouw	Sumatra	7,096.5 square meters.
Bu	Japan	0.1 inch.
Butt (wine)	Spain	140 gallons.
Caffiso	Malta	5.4 gallons.
Candy	India (Bombay)	529 pounds.
Do	India (Madras)	500 pounds.
Cantar	Morocco	113 pounds.
Do	Syria (Damascus)	575 pounds.
Do	Turkey	124.7036 pounds.
Cantaro (cantar)	Malta	175 pounds.
Carga	Mexico and Salvador	300 pounds.
Catty	China	1.333⅓ (1⅓) pounds.
Do	Japan	1.31 pounds.
Do	Java, Siam, and Malacca	1.35 pounds.
Do	Sumatra	2.12 pounds.
Centaro	Central America	4.2631 gallons.
Centner	Bremen and Brunswick	117.5 pounds.
Do	Darmstadt	110.24 pounds.
Do	Denmark and Norway	110.11 pounds.
Do	Nuremberg	112.43 pounds.
Do	Prussia	113.44 pounds.
Do	Sweden	93.7 pounds.
Do	Vienna	123.5 pounds.
Do	Zollverein	110.24 pounds.
Do	Double or metric	220.46 pounds.
Chih	China	14 inches.
Coyan	Sarawak	3,098 pounds.
Do	Siam (Koyan)	2,667 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Cuadra	Argentine Republic	4.2 acres.
Do	Paraguay	78.9 yards.
Do	Paraguay (square)	8.077 square feet.
Do	Uruguay	Nearly 2 acres.
Cubic meter	Metric	35.3 cubic feet.
Cwt. (hundredweight)	British	112 pounds.
Dessiatine	Russia	2.6997 acres.
Do	Spain	1.599 bushels.
Drachme	Greece	Half ounce.
Dun	Japan	1 inch.
Egyptian weights and measures	(*See* CONSULAR REPORTS No. 144.)	
Fanega (dry)	Central America	1.5745 bushels.
Do	Chile	2.575 bushels.
Do	Cuba	1.599 bushels.
Do	Mexico	1.54728 bushels.
Do	Morocco	Strike fanega, 70 lbs.; full fanega, 118 lbs.
Do	Uruguay (double)	7.776 bushels.
Do	Uruguay (single)	3.888 bushels.
Do	Venezuela	1.599 bushels.
Fanega (liquid)	Spain	16 gallons.
Feddan	Egypt	1.03 acres.
Frail (raisins)	Spain	50 pounds.
Frasco	Argentine Republic	2.5096 quarts.
Do	Mexico	2.5 quarts.
Fuder	Luxemburg	264.17 gallons.
Garnice	Russian Poland	0.88 gallon.
Gram	Metric	15.432 grains.
Hectare	do	2.471 acres.
Hectoliter:		
Dry	do	2.838 bushels.
Liquid	do	26.417 gallons.
Joch	Austria-Hungary	1.422 acres.
Ken	Japan	4 yards.
Kilogram (kilo)	Metric	2.2046 pounds.
Kilometer	do	0.621376 mile.
Klafter	Russia	216 cubic feet.
Kota	Japan	5.13 bushels.
Korree	Russia	3.5 bushels.
Last	Belgium and Holland	85.134 bushels.
Do	England (dry malt)	82.52 bushels.
Do	Germany	2 metric tons (4,480 pounds).
Do	Prussia	112.29 bushels.
Do	Russian Poland	11⅓ bushels.
Do	Spain (salt)	4,760 pounds.
League (land)	Paraguay	4,633 acres.
Li	China	2,115 feet.
Libra (pound)	Castilian	7,100 grains (troy).
Do	Argentine Republic	1.0127 pounds.
Do	Central America	1.043 pounds.
Do	Chile	1.014 pounds.
Do	Cuba	1.0161 pounds.
Do	Mexico	1.01465 pounds.
Do	Peru	1.0143 pounds.
Do	Portugal	1.011 pounds.
Do	Uruguay	1.0143 pounds.
Do	Venezuela	1.0161 pounds.
Liter	Metric	1.0567 quarts.
Livre (pound)	Greece	1.1 pounds.
Do	Guiana	1.0791 pounds.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Load	England (timber)	Square, 50 cubic feet; unhewn, 40 cubic feet; inch planks, 600 superficial feet.
Manzana	Costa Rica	1[illegible] acres.
Marc	Bolivia	0.507 pound.
Maund	India	8[illegible] pounds.
Meter	Metric	39.37 inches.
Mil	Denmark	4.68 miles.
Do	Denmark (geographical)	4.61 miles.
Morgen	Prussia	0.63 acre.
Oke	Egypt	2.7225 pounds.
Do	Greece	2.84 pounds.
Do	Hungary	3.0817 pounds.
Do	Turkey	2.85418 pounds.
Do	Hungary and Wallachia	2.5 pints.
Pic	Egypt	21¼ inches.
Picul	Borneo and Celebes	135.64 pounds.
Do	China, Japan, and Sumatra	133⅓ pounds.
Do	Java	135.1 pounds.
Do	Philippine Islands (hemp)	139.45 pounds.
Do	Philippine Islands (sugar)	140 pounds.
Pie	Argentine Republic	0.9478 foot.
Do	Castile	0.91407 foot.
Pik	Turkey	27.9 inches.
Pood	Russia	36.112 pounds.
Pund (pound)	Denmark and Sweden	1.102 pounds.
Quarter	Great Britain	8.252 bushels.
Do	London (coal)	36 bushels.
Quintal	Argentine Republic	101.42 pounds.
Do	Brazil	130.06 pounds.
Do	Castile, Chile, Mexico, and Peru	101.61 pounds.
Do	Greece	123.2 pounds.
Do	Newfoundland (fish)	112 pounds.
Do	Paraguay	100 pounds.
Do	Syria	125 pounds.
Do	Metric	220.46 pounds.
Rottle	Palestine	6 pounds.
Do	Syria	5¼ pounds.
Sagen	Russia	7 feet.
Salm	Malta	490 pounds.
Se	Japan	3.6 feet.
Seer	India	1 pound 13 ounces.
Shaku	Japan	10 inches.
Sho	do	1.6 quarts.
Standard (St. Petersburg)	Lumber measure	165 cubic feet.
Stone	British	14 pounds.
Suerte	Uruguay	2,700 cuadras (see cuadra).
Tael	Cochin China	590.75 grains (troy).
Tan	Japan	0.25 acre.
To	do	2 pecks.
Ton	Space measure	40 cubic feet.
Tonde (cereals)	Denmark	3.94783 bushels.
Tondeland	do	1.36 acres.
Tsubo	Japan	6 feet square.
Tsun	China	1.41 inches.
Tunna	Sweden	4.5 bushels.
Tunnland	do	1.22 acres.
Vara	Argentine Republic	34.1208 inches.
Do	Castile	0.914117 yard.
Do	Central America	38.874 inches.

Foreign weights and measures, with American equivalents—Continued.

Denominations.	Where used.	American equivalents.
Vara	Chile and Peru	33.367 inches.
Do	Cuba	33.384 inches.
Do	Curaçao	33.375 inches.
Do	Mexico	33 inches.
Do	Paraguay	34 inches.
Do	Venezuela	33.384 inches.
Vedro	Russia	2.707 gallons.
Vergees	Isle of Jersey	71.1 square rods.
Verst	Russia	0.663 mile.
Vlocka	Russian Poland	41.98 acres.

METRIC WEIGHTS AND MEASURES.

Metric weights.

Milligram ($\frac{1}{1000}$ gram) equals 0.0154 grain.
Centigram ($\frac{1}{100}$ gram) equals 0.1543 grain.
Decigram ($\frac{1}{10}$ gram) equals 1.5432 grains.
Gram equals 15.432 grains.
Decagram (10 grams) equals 0.3527 ounce.
Hectogram (100 grams) equals 3.5274 ounces.
Kilogram (1,000 grams) equals 2.2046 pounds.
Myriagram (10,000 grams) equals 22.046 pounds.
Quintal (100,000 grams) equals 220.46 pounds.
Millier or tonnea—ton (1,000,000 grams) equals 2,204.6 pounds.

Metric dry measures.

Milliliter ($\frac{1}{1000}$ liter) equals 0.061 cubic inch.
Centiliter ($\frac{1}{100}$ liter) equals 0.6102 cubic inch.
Deciliter ($\frac{1}{10}$ liter) equals 6.1022 cubic inches.
Liter equals 0.908 quart.
Decaliter (10 liters) equals 9.08 quarts.
Hectoliter (100 liters) equals 2.838 bushels.
Kiloliter (1,000 liters) equals 1.308 cubic yards.

Metric liquid measures

Milliliter ($\frac{1}{1000}$ liter) equals 0.0388 fluid ounce.
Centiliter ($\frac{1}{100}$ liter) equals 0.338 fluid ounce.
Deciliter ($\frac{1}{10}$ liter) equals 0.845 gill.
Liter equals 1.0567 quarts.
Decaliter (10 liters) equals 2.6418 gallons.
Hectoliter (100 liters) equals 26.418 gallons.
Kiloliter (1,000 liters) equals 264.18 gallons.

Metric measures of length.

Millimeter ($\frac{1}{1000}$ meter) equals 0.0394 inch.
Centimeter ($\frac{1}{100}$ meter) equals 0.3937 inch.
Decimeter ($\frac{1}{10}$ meter) equals 3.937 inches.
Meter equals 39.37 inches.

Decameter (10 meters) equals 393.7 inches.
Hectometer (100 meters) equals 328 feet 1 inch.
Kilometer (1,000 meters) equals 0.62137 mile (3,280 feet 10 inches).
Myriameter (10,000 meters) equals 6.2137 miles.

Metric surface measures.

Centare (1 square meter) equals 1,550 square inches.
Are (100 square meters) equals 119.6 square yards.
Hectare (10,000 square meters) equals 2.471 acres.

CONSULAR REPORTS.

COMMERCE, MANUFACTURES, ETC.

Vol. LIV. AUGUST, 1897. No. 203.

THE CHINESE OIL TREE.*

SHANGHAI REPORT.

The wood-oil tree, or *Aleurites cordata*, belongs to a family very common in China and known as the "tung." It is mentioned in some of the oldest books of the Chinese, where it is praised for its beautiful flowers and for the peculiar value of its wood in the manufacture of lutes. It is found growing in greater or less abundance throughout the Yangtze Valley and, to some extent, in the south of China. According to Chinese classification, there are many varieties of the tree—the green tung, the white tung, the red tung, the wu tung, and the ying tzu tung; but this classification is perhaps not accurate, for the Botanicon Sinicum places the wu tung in a different family. "It is the common Chinese name," we are told, "for the *Sterculia platanifolia.*" The white tung, or, as it is also called, the pao tung, is classed as *Paulownia imperialis*, and is the variety from whose wood the lutes are made.

The leaves, bark, and flowers of certain varieties are used in medicine. A bark of this name is exported in large quantities from Ningpo.

The wood-oil tree is the ying tzu tung, so called from the shape of its fruit—ying means a jar. It is also known as the yiu tung or oil tung. It has been classed as *Dryandra* and as *Elæococco cordata* or *Aleurites cordata.*

Oil is also said to be derived from other varieties of the tung, but it is the ying tzu tung which is especially cultivated for this purpose. It is found chiefly in Hunan, Hupeh, and Szechuen.

---

* In reply to Department instructions.

Hosie, in his Three Years in Western China, says it grows in great abundance on the banks of the Yangtze west of Ichang, that it seems to prefer thin-soiled, rocky ground, and grows to the height of 15 feet. "It has large, beautiful, shady, green leaves, small pink-white flowers, and large, green fruit like an apple." The seeds are large and poisonous, and it is from them that the oil is expressed. The fruit is gathered in August and September.

The machinery used for extracting the oil is very rude, consisting of wooden presses with wedges. It is sent to market in tubs with tight-fitting lids. The principal place of export is Hankow, whence, in 1895, there were 290,631 piculs (38,741,112 pounds) shipped chiefly to the Chinese ports, the value of which amounted to 1,453,156 taels ($1,162,524.80). Small quantities were exported from Kiukiang and Canton also. During the same year, there was imported at Shanghai a quantity estimated at 90,385 piculs (12,048,320 pounds), valued at 488,078 taels ($390,462.40), of which more than 35,000 piculs (4,665,000 pounds) were reexported.

The oil is used in the manufacture of paint and varnish, waterproof paper, and umbrellas, and in western China, it appears, for lighting also. The greater part, however, is consumed in calking, for which purpose it is everywhere used in China. In applying it to the bottom of the boats, it is put on hot, but for parts not commonly submerged, it is put on cold and in thin coats. The upper part of a Chinese boat is oiled once or twice a month. This gives it a clear, glossy appearance and preserves the wood. According to the figures given above, the oil was worth 5 taels ($4) per picul at Hankow and 5.40 taels ($4.32) at Shanghai. A picul is 133⅓ pounds, and this gives a little more than 3 cents (gold) per pound as the importing price in 1895. It sells at retail now (February, 1897) at from 120 to 160 cash (5 to 7 cents) per catty, according to quality.

It is said to be somewhat adulterated in the retail shops. Cheaper oils abound, and the charge is not incredible. Cotton-seed oil, it is reported, is used for this purpose.

T. R. JERNIGAN,*
Consul-General.

SHANGHAI, *February, 1897.*

CANTON REPORT.

In pursuance of instruction dated December 5, 1896, I have the honor to report a few facts collected in reference to the tung shu, or Chinese oil tree, the *Aleurites cordata.*

By looking over the statistical tables for the different ports of China, contained in the Imperial Maritime Customs Gazette and

---

* This report was prepared by our interpreter, Mr. E. T. Williams, and, if published, I request that he be given credit therefor.—T. R. J.

Trade Returns for 1895 and 1896, we find that Canton is not the home of the tung shu, which yields the tung yan, or wood oil, of Chinese commerce. On the contrary, we find that Hankow is the chief place of export, from which was exported to foreign countries and Chinese ports during the first three quarters of 1896, 188,556 piculs (1 picul=133⅓ pounds) of this native oil. A small portion of this quantity, in all probability, reached Canton. But the likin office of Canton informs us that most of the wood oil that finds its way to Canton comes from Nganhwei Province. Kweichow, in Kwang-si Province, is also said to make small shipments of this oil to Canton. I have it from reliable sources that the tree also grows at Lien-chau, in Kwang-tung Province, near Hunan. It also grows in the islands of Formosa and Hainan, and is cultivated in Hongkong.

Hankow being the principal place of export of the wood oil (but shows no imports), it follows the oil must come to Hankow in junks or native boats down the Yangtze Kiang and other rivers. The most of this oil, as I am informed by reliable customs officers, comes from Szechuen Province, and the best of it is said to come from Hunan.

The above facts will serve to locate the tree, which may be said to grow in the provinces along the course of the Yangtze Kiang, but more abundantly on the south of it than on the north, except in Szechuen Province, where it probably grows very extensively.

The tung shu attains to the height of from 10 to 20 or 25 feet, and grows on mountainous and hilly ground.

The oil is expressed from the nut or fruit of the tung shu by a process similar to that used for expressing the groundnut oil. The oil is usually of a light color, somewhat resembling linseed oil, and emits a nauseous odor.

It is extensively used for calking, painting, and varnishing and preserving woodwork generally. Almost all the native boats on the Canton River are overdrawn with one or more coats of this oil, without the admixture of other ingredients, and serving the same purpose that so many coats of paint do on other boats. The ink extensively used throughout the Chinese Empire is also made from the smoke of this oil.

As directly bearing on this subject, I beg leave to quote from a letter from Mr. Charles Ford, superintendent of the Botanic Gardens, Hongkong:

> *Aleurites cordata* is a small tree which is cultivated in South China and as far north as the Yangtze Valley, as well as in Japan. The wood is said to be used for making lutes and is also excellent for pillars for building purposes; it is also said to be never injured by insects. In South China, I have seen it growing on hilly

situations only when the soil was moderately good. The oil obtained from its seeds is used for painting all kinds of wood where exposed to moisture and also in the manufacture of oil paper. It is also, I understand, an ingredient in Chinese varnish, which is so extensively used for varnishing furniture. The oil is poisonous.

In bringing to a close my investigations in regard to the tung shu, permit me also to quote from the Chinese materia medica, which will illustrate the large sphere of usefulness occupied by the oil of this tree:

> The best wood oil comes to Hankow from Shin-chau Fu, in Hunan. The oil is given as a remedy in insanity and in cases of metallic poisoning. It is emetic, acro-narcotic, and drastic, proving destructive to rats in a very short time. It is applied as a stimulant to carbuncles, ulcers, burns, swellings, and bruises, and is a constant ingredient in native plasters. It was forbidden to be exported during the Taiping rebellion, as it is a necessary article for shipyards.

ALFRED ALF,
CANTON, *February 10, 1897.* *Vice-Consul, in charge.*

HANKOW REPORT.

In accordance with instruction, I have the honor to send full particulars in regard to the tung tzu shu (*Aleurites cordata*), or Chinese wood-oil tree. It has taken me some time to obtain accurate information on the subject, in which I have been assisted by Rev. Joseph S. Adams and others. While large quantities of wood oil arrive here from up the river, it seems that but few persons know how it is extracted from the nut.

The tung shu, or wood-oil tree of China, is described as belonging to the *Euphorbiaceæ*. Dr. Legge calls it *Elæococco dryandra*. Dr. Wells Williams (Chinese Dictionary, p. 934) describes it as *Elæococco ainensis*. Dr. E. Bretschneider, in his Botanicon Sinicum, disagrees with Legge and Williams. Henry (p. 490) calls it the *Paulownia imperialis;* Bretschneider calls it the *Dryandra cordata.*

This tree is often referred to in the Chinese classics. As early as the seventh century B. C., it is mentioned as being planted by Duke Wau around his house for its grateful shade, as it may be seen throughout China to-day.

There are many sorts of wood-oil trees: Hai tung (sea oil), a spinous variety, bark used for medicine; ts'ing tung, or green wood oil; pei tung, or white wood oil; chi lu tung, or red wood oil; wu tung, or patois name; yu tung, or oil tree.

These colors refer to the flowers and not to any coloring quality in the oil. The oil is a clear or turbid, light or dark, thick fluid, depending for the shade on the kind of tree or the sort of treatment in manipulation. The pigment is added in painting or staining. The oil has no color save a faint, unbleached yellow when dry.

Description from Chinese sources (see Bretschneider's Botanicon Sinicum, p. 349): It has very large leaves, variable in shape. The wood is light and never injured by insects. It is useful for making various utensils, and also excellent for making pillars in building houses. It flowers in March; its flowers are red, white, and purple in color. Its fruit is ripe in September and October. Its fruit is called by Chinese "ying tzu tung," from its resemblance to a jar flattened at the top and bottom. It grows about as large as an orange. Within each capsule are five or seven seeds. These are light, flattened, and winged like the seeds of an elm tree. When ripe, the fruit bursts, and the seeds are carried off by the wind. It is a handsome tree, easily grown from seeds or cuttings, and attains a diameter of more than 2 feet. It has cordate leaves and ovoid, acuminate fruit, withering and falling in the early frosts. It is not an evergreen. Its timber is praised for its quality in the manufacture of musical instruments, as the lute, etc. The older the tree and the higher it grows on a hillside the better its resonant timbre. It is found along the Yangtze Valley from Szechuen to the sea, and especially in the provinces on both sides of the river. In the heart of China (Szechuen, Kweichow, Hunan, and Yunnan), the people spin thread from a tung tree and make a kind of cloth which resembles woolen. It is very common in central China. It is also well known in Japan. There is a kind of bastard wood-oil tree from which strings can be made, probably *Sterculia platanifolia* (Henry).

The principal value is found in the oil produced from its large, acrid, and poisonous seed nut. This oil is largely used for painting and calking. Mixed with sifted lime, it makes excellent glaziers' putty. After the oil is removed, the nut is calcined or burnt and produces a very valuable soot, from which Chinese ink is made (or india ink, so called). Cement, or chunam, for seams of boats is made from this oil. It costs about 90 cash (6 cents) per pint in the village where produced and is sold at double that price in Hankow.

The nuts are gathered and dried, put in an ordinary Chinese rice "kwo," or cooking pot—a shallow iron basin about 2 feet in diameter—and stirred about over a good fire until parched; they are then taken to a mill, sometimes worked by hand (an ordinary grinding mill), and ground to fine powder, the oil dripping out into a receptacle, or they are ground in a proper mill with large granite grindstones, turned by a cow, horse, or ass. When allowed to settle and strained through coarse grass cloth, the oil is ready for the market. It is sent down in plaited baskets, lined with putty and varnished paper, with large wide mouths and four loops plaited in the bamboo to hook them up.

The oil is extremely poisonous when fresh. A simple native remedy (more effective, indeed, than any foreign one) is to boil a quantity of pine shavings in water and bathe the poisoned part repeatedly. It gives immediate relief and rapidly cures. The curious aspects of wood-oil poisoning are worthy of special study.

The wood-oil tree has been styled, and worthily so, the "national tree of China," from its stately appearance, green, smooth bark, and spreading branches.

There is no reason why this tree should not flourish in the United States and Europe, as it bears equally well at a temperature below freezing or up as high as 120° F., but the nut contains but little oil when grown outside of the provinces named. It could, no doubt, be grown profitably in our Southern States or Lower California.

This oil is used all over China as a paint or a varnish; but little is exported. The nuts are gathered during the latter part of September and the early part of October, and the oil is brought by junks to Hankow during most of the year and shipped to the various Chinese ports.

The customs returns show that, in 1894, 332,848 piculs (44,368,638 pounds) were exported from Hankow, and in 1895, 290,681 piculs (38,741,112 pounds). This does not include a large quantity used in Hankow, of which no return is made.

JACOB I. CHILD,
Consul.

HANKOW, *February 12, 1897.*

CHUNGKING REPORT.

Mr. Alexander Hosie, of the British consular service in China, writing on the above-named tree in his work, Three Years in Western China, says as follows:

> The oil tree (*Aleurites cordata*) was scattered about among the fields. It seems to prefer thin-soiled, rocky ground, being met with in great abundance on the banks of the Yangtze west of Ichang. It grows to the height of about 15 feet, and has large, beautiful, and shady green leaves, which were lighted up as we passed with bunches of small, pink-white flowers. It produces a large, green fruit like an apple, the large pips or seeds of which contain the oil for which the tree is famous. The fruit is gathered in August and September. Primitive wooden presses with wedges are used for extracting the oil, which is sent to market in wooden tubs with tight-fitting lids, and is employed for a variety of purposes, such as the manufacture of paint, varnish, waterproof paper, umbrellas, as well as for lighting. The seeds, if eaten, cause nausea and vomiting.

The Journal of the China Branch Royal Asiatic Society has the following:

> The *Dryandra*, or *Elæococco*, to which Legge refers the tung of the classics, is 'eed also a tung, but the Chinese authors distinguish it well from the *Paulownia*

in terming it ying tze tung (ying is a jar, and allusion is made to the shape of the fruit); yu tung, oil-yielding tung.

Siebold says:

> This is the *Dryandra cordata* or *Elæococco verrucocc.* A valuable oil pressed from the large, poisonous seeds is much used for painting and calking. The tree is extensively cultivated in the Yangtze Valley. It is also well known in Japan.

Archibald John Little, in his work, Through the Yangtze Gorges, has the following:

> The tung nut, which yields the oil, was being ground up in a circular stone trough by iron wheels, dragged around by a blindfold ox. The resultant coarse powder is then made into circular cakes with straw, and a horizontal pile is then placed in a very rough but solid wooden press, and long wedges are successively driven in and the oil expressed. These wedges are iron capped and are struck by a huge ram slung from the roof and worked by two men, the taking-count rim being an affair of much nicety. The oil cake remaining is a valuable manure for the poppy. Opium and tung (*Elæococco*, or varnish tree) oil are the two main staples of eastern Szechuen.

From a native source (my own writer), I have obtained the following:

> The names of the tung shu are numerous. In the Chinese classics, the diameter of the tree is referred to be just an armful, and it is also mentioned in the Book of Poetry. In other books, it is stated that the wood was used for making harps, and the leaves were able to tell when it was an intercalary month by shedding an extra leaf; the flower also knows when it is cold. But it is not stated in books what the fruit was used for. It grows to the height of about 20 feet, and the shortest is about 8 or 9 feet high. When the flower is red, it is called the red tung shu, and when the flower is white, it is called the white tung shu; and, further, there are the kau tung and tze tung. In the Chuen-fong-pu, the white tung shu is also called the hwa tung, pau tung, in tzu tung, and hu tzu tung. The kau tung is just the same as what they now call the yu tung, and the fruit is like the poppy. The outside of the flower is white and the inside red. During the latter part of the second moon and the beginning of the third moon it commences to flower; in the fourth or fifth moons, it becomes a fruit, which does not ripen until the end of the eighth moon, when it is beaten from the tree with bamboos and put in damp places until the outside gets rotten, and then the kernel is taken out. The size of the kernel is about the size of a bean. When the outside is peeled off, it becomes pure white. It is roasted until burnt and then ground; then they put it into a bowl and steam it, when cakes are made from it. It is afterwards put into a press and the oil obtained, which is used for lamps and also to give polish to painted things.

As will be seen from the foregoing information, the fruit does not ripen until the end of the eighth moon—about the 1st of August. I have, therefore, been unable to visit one of the places where the manufacture of the oil takes place and report in full on the process and the quantity produced. I hope next autumn to be able to furnish an additional report on the subject.

GEO. F. SMITHERS,
Consul.

CHUNGKING, *April 14, 1897.*

CHINESE INSECT WHITE WAX.*

Although the substance called Chinese insect white wax has long been known in Europe, it is only within recent years that the mystery which has surrounded this remarkable industry has been cleared up.

As early as 1522, this wax is mentioned in Chinese books; but at that time the idea seems to have been prevalent that the insects, by some mysterious process of metamorphosis, were themselves converted into a white substance and did not excrete the wax.

Although the province of Szechuen has always been recognized as the chief breeding country of the white-wax insect and the great field for the production and manufacture of the white wax of commerce, the wax is found and manufactured in several other provinces, notably, in Kweichow, Hunan, Fukien, Chekiang, and Anhui, and in reality exists in small quantities from Chihli, in the north, to the island of Hainan, in the south, of China.

If we glance at a map of China, we will find that the Upper Yangtze, or Golden River, as it is there called, is joined by a river called the Ya-lung or Ta-Ch'ung, a little to the west of the one hundred and second degree of longitude, and that the united waters flow southeast below the twenty-sixth degree of latitude, and again turn north, forming, as it were, a loop toward the province of Yunnan. Between these two rivers flows another smaller river, called the Au-ning, which joins the Ya-lung before the latter unites with the Golden River. The Au-ning flows down a valley called the valley of Chien-Ch'ang, the local name of Ning-Yuan Fu, the principal town within the river loop. This valley, the northern boundary of which is in latitude 29° 20', and southern boundary in latitude 27° 11', is the great breeding ground of the white-wax insect. In the valley, which is about 5,000 feet above the level of the sea, and on hills which bound it, there is one very prominent tree, called by the Chinese of that region the ch'ung shu, or "insect tree." It is known under different names in the same province of Szechuen; it is called the tung ching shu, or "evergreen tree," and the pao-kê-ts'ao shu, or "crackling-flea tree," from the sputtering of the wood when burning. It is an evergreen, with leaves springing in pairs from the branches. They are thick, dark-green, glossy, ovate, and pointed. In the end of May and beginning of June, the tree bears clusters of small, white flowers, which are succeeded by fruit of a dark-purple color. From the specimens of the tree which I forwarded to Kew

---

* A report upon "White wax in China" will be found in CONSULAR REPORTS No. 133 (October, 1891), p. 201.

Gardens, the authorities there have come to the conclusion that it is *Ligustrum lucidum*, or large-leaved privet.

In the month of March, 1883, I passed through the Chien-Ch'ang Valley; but, knowing that Mr. Baber had already furnished a report on the subject of white wax, I confined myself to a mere cursory examination of the insect tree. In that month, however, I found attached to the bark of the boughs and twigs numerous brown pea-shaped excrescences. The larger excrescences, or scales, were readily detachable, and, when opened, presented either a whitish-brown, pulpy mass or a crowd of minute animals like flour, whose movements were only just perceptible to the naked eye.

In the months of May and June, 1884, when I was called upon for more detailed information on the subject, I had the opportunity of examining these scales and their contents with some minuteness in the neighborhood of Chungking, and also within the jurisdiction of Chia-ting Fu, the chief wax-producing country in the province of Szechuen, 10 miles to the east of Chungking. I plucked the scales from the trees (the *Ligustrum lucidum*) and on opening them (they are very brittle) I found a swarm of brown creatures crawling about, each provided with six legs and a pair of antennæ. Each of these moving creatures was a white-wax insect, the *Coccus pe-la* of Westwood. Many of the scales also contained either a small white bag or cocoon covering a pupa, or a perfect imago in the shape of a small black beetle. This beetle is a species of *Brachytarsus*. For this information, I am indebted to Mr. McLachlan, to whom the insects forwarded by me to Kew were submitted for examination.

If left undisturbed in the broken scale, the beetle, which, from his ungainly appearance, is called by the Chinese the nin-êrh, or "buffalo," will, heedless of the cocci which begin to crawl outside and inside the scale, continue to burrow in the inner lining of the scale, which is apparently his food. The Chinese declare that the beetle eats his minute companions in the scale, or at least injures them by the pressure of his comparatively heavy body; and it is true that the scales from Chien-Ch'ang, in which the beetles are numerous, are cheaper than those in which they are absent. But although Chinese entomology is not to be trusted, there is, after all, a grain of truth in the statement. The genus *Brachytarsus* is parasitic on coccus, and the grub, not the imago, is the enemy of the white-wax insect. The Chinese, therefore, are not far wrong when they pay a lower price for the beetle-infested scales.

When a scale is plucked from a tree, an orifice where it was attached to the bark is disclosed. By this orifice, the cocci are enabled to escape from the detached scales. If the scales are not detached, but remain fixed to the bark, it may be asked, How are the cocci to find their way out? It has been stated by entomologists that they know not of any species of the family *Coccidæ* that can not find their way from underneath the mother scale without assistance. This may also hold good in the present case; but all I contend for is, that the *Coccus pe-la* takes eager advantage of the opening pierced from inside the scale by the beetle to escape from imprisonment. In addition to the branches with intact scales, which I carried home with me for examination, I closely observed the scales that had been left undetached on the *Ligustrum*, and found only one orifice in each scale, a circular hole similar in every respect to the orifice pierced by the beetles in the scales which I had with me. At Chia-ting, I examined scales that had been brought from the Chien-Ch'ang Valley. They were suspended on the wax trees and were for the most part empty. They had only one orifice—that by which they had been attached to the bark of the *Ligustrum*, and by which the cocci had no doubt escaped. In the very first scale I opened there, however, I found a solitary beetle.

The Chien-Ch'ang Valley is the great insect-producing country; but the insects may be and are propagated elsewhere, as in Chien-wei Hsien, to the south of Chia-ting Fu, and even as far east as Chungking. These insects are, however, declared by the Chinese to be inferior and they fetch a lower price.

Two hundred miles to the northeast of Chien-Ch'ang, and separated from it by a series of mountain ranges, is the prefecture of Chia-ting, within which insect white wax as an article of commerce is produced. At the end of April, the scales are gathered from the *Ligustrum* in the Chien-Ch'ang Valley, and collected for the most part at the town of Tê Chang, on the right bank of the Au-ning River, which I have already mentioned, in latitude 27° 24′.

To this town, porters from Chia-ting annually resort in great numbers—in former years, they are said to have numbered as many as ten thousand—to carry the scales across the mountains to Chia-ting. The scales are made up into paper packets, each weighing about 16 ounces, and a load usually consists of about sixty packets. Great care has to be taken in the transit of the scales. The porters between the Chien-Ch'ang Valley and Chia-ting travel only during the night, for, at the season of transit, the temperature is already high during the day, and would tend to the rapid development of the insects and their escape from the scales. At their resting places, the porters open and spread out the packets in cool places. Notwithstanding all these precautions, however, each packet, on arrival at Chia-ting, is found to be more than an ounce lighter than when it started from Chien-Ch'ang. In years of plenty, a pound of scales laid down in Chia-ting costs about half a crown; but in a year of scarcity, such as last year, when only a thousand loads are said to have reached Chia-ting from Chien-Ch'ang, the price is doubled.

In favorable years, a pound of Chien-Ch'ang scales is calculated to produce from 4 to 5 pounds of wax; in bad years, a little more than a pound may be expected, so that, taken as a whole, white-wax culture has in it a considerable element of risk.

West from the right bank of the Min River, on which the city of Chia-ting lies, stretches a plain to the foot of the sacred O-mei range of mountains. This plain, which runs south to the left bank of the Ta-tu River, which forms the northern boundary of the Chien-Ch'ang Valley further west, is an immense rice field, being well watered by streams from the western mountains. Almost every plot of ground on this plain, as well as the bases of the mountains, are thickly edged with stumps, varying from 3 or 4 to a dozen feet in height, with numerous sprouts rising from their gnarled heads. These stumps resemble, at a distance, our own pollard willows. The leaves spring in pairs from the branches; they are light green, ovate, pointed, serrated, and deciduous. In June, 1884, when I visited this part of the country, some of the trees were bearing bunches apparently of fruit in small pods; but as no flowering specimens were then procurable, there still exists a little uncertainty as to this tree. I am informed, however, that it is, in all probability, the *Fraxinus chinensis*, a species of ash. The tree is known to the Chinese as the pai la shu, or "white-wax tree."

It is to this, the great home of the wax tree, that the scales are carried from the Chien-Ch'ang Valley. On their arrival, about the beginning of May, they are made up into small packets of from twenty to thirty scales, which are inclosed in a leaf of the wood-oil tree. The edges of the leaf are tied together with a rice straw, by which the packet is also suspended close under the branches of the wax tree. A few rough holes are drilled in the leaf with a blunt needle, so that the insects may find their way through them to the branches.

On emerging from the scales, the insects creep rapidly up the branches to the leaves, among which they nestle for a period of thirteen days. They then descend to the branches and twigs, on which they take up their position, the females, doubtless, to provide for a continuation of the race by developing scales in which to deposit their eggs and the males to excrete the substance known as white wax. Whether or not the wax is intended as a protection to the scales, I am not prepared to say. I have frequently observed, however, scales far removed from any deposit of white wax, and it may be asked whether or not it is in these scales at a distance from the wax that the female beetles, cuckoo-like, deposit their eggs. The Chinese in

Chia-ting have learned to distinguish the wax-producing from the nonwax-producing insects. They divide them into two classes, called, respectively, the la sha, or "wax sand," and the huang sha, or "brown sand." The former, which are of a reddish-white color, are declared to be the wax producers, while the latter, which are of a brownish color, are said to produce no wax. These are without doubt the males and females, respectively.

During the thirteen days after their escape from the scales and their future life when studded on the bark, the insects must derive their nourishment from the sap of the tree, although to the unaided eye there is no visible impression on leaves or bark. From the absence of any such marks, the Chinese declare that the insects live on dew and that the wax perspires from their bodies.

The wax first appears as a white coating on the under sides of the boughs and twigs, and resembles very much sulphate of quinine or a covering of snow. It gradually spreads over the whole branch and attains after three months a thickness of about one-fourth of an inch. When the white deposit becomes visible on the branches, the farmer may be seen going the round of his trees, carefully belaboring each stump with a heavy wooden club, in order, as he says, to bring to the ground the la-kou, or "wax dog," a declared enemy of the wax insect; this probably refers to the beetle mother. This clubbing of the stumps was done during the heat of the day, when the wax insects are said to have a firm hold of the bark.

After the lapse of a hundred days from the placing of the insects on the wax tree, the deposit is complete. The branches are then lopped off and as much of the wax as possible removed by hand. This is placed in an iron pot of boiling water, and the wax, melting, rises to the surface, is skimmed off and placed in a round mold, whence it emerges as the white wax of commerce. Where it is found impossible to remove the wax by hand, twigs and branches are thrown into the pot, so that this wax is darker and inferior. Finally, not satisfied that all the wax has been collected, the operator takes the insects, which have meantime sunk to the bottom of the pot, and, placing them in a bag, squeezes them until they have given up the last drop of their valuable product. They are then—an ignominious ending to their short and industrious career—thrown to the pigs.

On the 27th of August, 1884, branches of the *Ligustrum* coated with wax were brought to me. On removing the wax, I found close to the bark a number of minute brown bags, evidently the male cocci in a state of metamorphosis. I examined the undisturbed branches from day to day, and on the 4th of September I observed quite a number of white hair-like substances rising above the surface of the wax deposit. These ultimately proved to be the white-forked tails of the male insects forcing their way up from the bark, and dislodging as they emerged small quantities of the wax. They were now provided with long wings, and after tarrying for a time on the branches, flew away. By the 13th of September, they had all disappeared, leaving visible the tunnels from the bark upwards by which they had escaped.

It will be seen from the above remarks that, as the branches of the wax tree are boiled with the wax, the scales are destroyed, and hence it is necessary to have recourse annually to the Chien-Ch'ang Valley for fresh scales with eggs or insects.

When the branches are lopped off a wax tree, a period of three years is allowed to elapse before the scales are suspended under the new branches of the same tree. Wind and rain are greatly dreaded at the season of suspending the insects, and the sprouts of one and two years' growth are considered too weak to resist a gale.

So much for the wax insect and its product. I come now to the subject of the quantity produced, its value, and uses.

Since the introduction of kerosene oil into China, and its almost universal use in the remotest provinces of the Empire, the demand for white wax has declined considerably, and the supply has decreased in a corresponding ratio. Not many years ago, as I have already stated, ten thousand porters were required to carry the scales from the Chien-Ch'ang Valley to the wax-tree country, and in 1884, we find that a thousand porters were able to transport the Chien-Ch'ang supply. In many homesteads in Szechuen, where candles were formerly the only lights, kerosene has been introduced and it is now only when lighting is required outside—for there is no public lighting in China worthy of the name—that candles are employed by those who find it necessary to leave their homes after nightfall. I find, however, from the returns of the imperial Chinese maritime customs for 1884, that the quantity of insect white wax imported into Shanghai in foreign vessels from the ports on the Yangtze amounted to 7,628 piculs (454 tons), valued at 381,440 taels (about £95,000), say, on an average, £200 ($973.30) a ton. The value, like the demand, has also declined. Not many years ago, it was quoted at double the prices realized at present.

Various uses are ascribed to this wax; but in western China, as far as I have been able to gather, its sole use is for coating the exteriors of animal and vegetable tallow candles and for giving a greater consistency to these tallows before they are manufactured into candles. Insect white wax melts at 160° F., whereas animal tallow melts at about 95° F. Vegetable and animal tallow candles are therefore dipped into melted white wax; a coating is given to them, and prevents them guttering when lighted. It is also said to be used in other parts of China as a sizing for paper and cotton goods, for imparting a gloss to silk, and as a furniture polish. Chemists are likewise declared to utilize it for coating their pills. In the Fukien and Chêkiang provinces, it is employed to impart a polish to steatite, or soapstone, ornaments after the carving is completed.

Such, then, is a brief history of the production, manufacture, and uses of Chinese insect white wax—a substance interesting from a biological, as well as from a commercial, point of view.

GEO. F. SMITHERS,
CHUNGKING, *April 15, 1897.* *Consul.*

PAPYROLITH AND OTHER ARTIFICIAL FLOORING.

PAPYROLITH IN GERMANY.

I have the honor to inform the Department that the papyrolith, referred to in a report furnished by Mr. Germain, United States consul in Zurich, and published in CONSULAR REPORTS No. 198 (March, 1897), p. 343, has turned out anything but successful, *i. e.*, the Saxon end of it. I understand that parties who put papyrolith in on trial ordered it taken out. It is to be hoped that the Zurich firm has found a way to overcome the evils against which experimenters here have proven powerless. The fault is in the use of sawdust, which retains more or less dampness and causes swelling and bursting after the flooring has been laid. An article in the Builders' Times (Bau-Zeitung), published March 17, 1897, in Berlin, points out, in answer to a correspondent, the fact that the 30 square meters of Kraner's papyrolith had to be removed because it was not what was wanted. The article says, among other things:

> After fourteen days, the upper layer lifted itself in many places, cracked, and blistered. My repeated requests to restore the flooring in a proper way remained unanswered. Finally, a shipment of the material arrived, and was followed by the "Monteur" (workman) of the firm (Kraner & Co.), who declared that he could not repair the flooring, as mending of the old floor could not well be carried out, and that the only thing to do was to clean out the old and put down the new flooring, made from the material shipped a few days before. New demands on the firm remaining without result, I was compelled to remove the flooring. * * *

Kraner's former partner, one Knoch, who, if I am correctly informed, is a man of inventive mind, has succeeded in obtaining one or two most successful building and flooring materials. For two years, I have been watching every movement made by both Kraner and Knoch. I have not reported sooner because I did not believe that either had achieved sufficient success to warrant my reporting to the Department.

CORK-STONE FLOORING.

Knoch's cork stone, so called, of which I send samples,* has been very highly commended for its isolating properties by architects and the officers of experimental stations. I understand that Knoch is having a great deal of success with it throughout the Empire. The materials and processes of manufacture are very simple. Ground cork (cork meal, as it is called), tan-bark meal, ground up peanut shells, or any other suitable vegetable matter, are mixed with paper waste, alum, or other fireproof materials and molded into bricks. These are dried in kilns or in the open air. The material, thus made, is damp proof and sound proof, and, to a very large extent, fireproof. The bricks so made and impregnated may char or molder and burn away, but they will not blaze. They are as near fireproof as any such substance can be made.

KNOCH'S ELASTIC FLOORING.

Besides the so-called cork stone, Knoch has invented an artificial, absolutely fire, water, moisture, and acid proof crackless material for flooring, walls, etc.

The material is made by dissolving chloride of magnesium in water at 27° Baumé. To 1 pound of salt is put 1 liter (a trifle over a quart) of cold water. The salt must be totally dissolved by the water before the solution is ready for use. As soon as the salt is thoroughly dissolved, 30 kilograms (66 pounds) of burnt powdered magnesium and 2 kilograms (4.4 pounds) of leather meal (finely ground leather waste) are mixed in a drum or tub by hand. Six kilograms (13.2 pounds) of this mixture are then mixed with 5 liters of the chloride of magnesium solution. This mixture must be thoroughly kneaded by hand or by a kneading machine until a uniform pulpy mass results. This mass may be spread over the surface, to be covered and bound in, to keep it from running, with wooden, tin, or sheet-iron forms. It must be smoothed or evened off by means of a smoothing iron or utensil. The same process, practically, must be gone through when making plates of this material in molds. When a better, more isolating, linoleum-like plate or flooring is wanted, the mixture must contain 3 or more, instead of 2, kilograms of leather meal. Such a mixture gives a beautiful surface, and isolates sound, moisture, fire, etc. To still further isolate and to obtain an elastic flooring, a good plan is to put, first, a layer of the mixture, next a layer of dry cork meal or vegetable stuff, and, on top of this, another layer of the mixture.

---

* Samples filed in the Bureau of Foreign Commerce, Department of State.

The advantages of Knoch's elastic, artificial, jointless, fire, water, and acid proof flooring and wall and ceiling covering are:

It can be put on over stones, bricks, old floors, etc. Twelve hours after being spread, it is ready for use, may be walked or worked on. If laid in the evening, it is ready for use the next morning. In twelve hours, it is as hard as stone, although almost as elastic as wood. This is due to the leather meal introduced into the mixture, hence shrinkage is impossible. The fact is, the mass, if it has any tendency, tends to expansion. If, after the mass has been smoothed off, boards, linoleum, etc., are laid over the surface, the result will be a flooring bearing a very close resemblance to the boards, linoleum, etc., so placed. In fact, any pattern may be obtained by impressing the surface with plates containing the one desired. Inasmuch as the mass covers the entire floor, close up to the walls, having no joints, all kinds of dirt, fungi, vermin, etc., are excluded; while cleaning is very much easier than any of the usual floorings. In fact, a moist cloth is all that is needed in any but exceptional cases. Another great advantage is the ease with which the mass or mixture may be made into plates of all sizes and shapes for shipment to any point. In case one wishes to have polished surfaces, the floor may be rubbed over with a cloth or brush saturated with any pleasant-smelling oil. The mass may be made to take the place of mortar, for it clings, as does mortar, to laths, boards, bricks, etc., and has the advantage over mortar of being a better isolator against sound, fire, moisture, etc. Used as flooring, it takes the place of boards and linoleum and beats both in its security against fire, sound, moisture, etc. In old buildings, sheds, barns, storehouses, lofts, etc., it will prove a great success. In case of fire breaking out, it can easily, or with very little effort, be confined to the room in which it originates, *i. e.*, if the room is floored, walled, and ceiled with this material. Xyolith, a supposed rival of this flooring material, can be made only in plates, and these shrink and sweat.

Calculation of costs of production.—Thirty kilograms burnt powdered magnesium, 3 marks (71.4 cents); 2 kilograms leather meal, 12 pfennigs (2.8 cents); 25 kilograms solution from 12½ kilograms chloride of magnesium, 88 pfennigs (20.9 cents); 57 kilograms of the mass cost 4 marks (95.1 cents); 100 kilograms of the mass cost 7 marks ($1.666).

Dimensions and prices are, per square meter: Ten millimeters thick, 3.50 marks (83.3 cents); 15 millimeters thick, 5 marks ($1.19); 20 millimeters thick, 6 marks ($1.424); 25 millimeters thick, 7.50 marks ($1.785); 30 millimeters thick, 10 marks ($2.38).

J. C. MONAGHAN,
Consul.

CHEMNITZ, *May 28, 1897.*

BICYCLES IN GERMANY.

The wide difference that exists between the duty on American bicycles entering Germany and that on German bicycles entering the United States continues to give grave concern to the makers of native wheels. The boycott laid by the editors of sporting papers on advertisements and notices of American wheels has proved entirely ineffectual. On the contrary, appearances support the conclusion that this boycott has produced an increase of popular favor for American machines. To all appearances, buyers here have argued that such a boycott proves that the German maker does not fabricate as light, durable, and shapely an article as the American, since the boycott is in nature of a confession to that effect on the part of the native maker.

American manufacturers who have taken heed to the urgent advice from various consular officers in Germany to send over German-speaking agents, can not complain of failure to secure orders, whenever they have been represented by able agents. If I can believe the statements of a number of these agents who have visited the Berlin office, their business trips have had brilliant results. And in part corroboration of their statements, it appears that American cycles have arrived in very large quantities in Hamburg. Some of these are for immediate distribution, but the rest, according to the papers, for storage at that point until the chosen moment for selling them arrives.

The reason for this quantity of our machines just now at Hamburg is not far to seek. It springs from the same reason as the boycott against advertisements in German papers. The German manufacturers have reached a stage of exasperation at which their representations to Government may possibly result in customs regulations to the detriment of our wheels. They say, with truth, that their wheels are subject to a very high duty on entering the United States, while our wheels pay a very small rate, varying from 3 to 7 marks (71 cents to $1.67), according to the materials and weight of the machine. The least they will be content with is a duty of 50 marks ($11.90) on each American wheel. It is in order to forestall this rise in duty that American machines have been accumulated at Hamburg, just as vast quantities of German goods of all sorts have been accumulated in New York against the passage of the bill for providing revenues now before Congress.

To show that I am not speaking without the book, I have the honor to forward the following translation of a memorial addressed by the League of Industrials at Bochum to the German Government. Bochum is an important manufacturing town in the great industrial region by the Rhine that includes Elberfeld, Barmen, and Dusseldorf.

According to reliable news, the idea has been discussed in American capitalistic circles to sell to German consumers the products of American bicycle factories by the establishment of many branch businesses. Such a movement has already taken place with the sewing machines of the Singer Company, to the great detriment of native fabrications.

Our bicycle factories, the number of which is growing daily, stand in the same danger. The urgency of the matter can be seen from a report made by an American consul, in which the formation of a syndicate of American bicycle makers is considered in connection with a similar proposal on the part of the French minister in Berlin (sic).

The German bicycle fabrication has a severe battle to endure, because the high customs duties of foreign countries strangle exports to a notable degree, while, on the other hand, the import duty into Germany is hardly large enough for mention. It is well known that the United States levies a duty of 35 per cent of the valuation, which means an average of 60 marks ($14.28) on a wheel; while, in accordance with the German duty of 24 marks ($5.71) on 100 kilograms, only from 3 to 4 marks (71 to 95 cents) duty fall to the foreign wheel. The consequence is that Germany is swamped with cheap (sic) American bicycles, but for her part can not export wheels to the United States. Germany is forced to leave her own market open to American and British rivalry and permit the native manufacturers to be seriously depressed. The German manufacturer is forced to send, at great expense, salesmen to foreign countries that will take his wares, in order to get amends for the losses in his own land, which he has to surrender to America and England.

According to the statistics of the United States Treasury in Washington, America sent machines in 1896 for $3,795,022; England exported in January, 1897, for £152,564 ($742,454), and imported for only £26,744 ($130,149).

On the other hand, according to the figures given by the imperial statistical bureau, the imports and exports of Germany almost equal one the other. In the months of January and February, 1897, Germany imported 1,114 bicycles and 53 tons of parts of bicycles. During the same period, the export consisted of 1,153 bicycles and 55 tons of parts of bicycles

These figures give a sufficiently clear showing that our German industries endeavor, it is true, to find markets in foreign parts, but have to surrender the advantages thus won in consequence of the present condition of affairs in custom duties with regard to the home market. Another evil is that the prices of German fabrications are being lowered more and more by the importation of cheap American wheels. While a few years ago the price for a good German wheel was 350 marks ($83.30), it has now sunk to 170 marks ($40.46), or 230 marks ($54.74) for better sorts of wheels. Only a few of the very best brands are still sold at retail for 300 marks ($71.40).

On the above grounds, some aid is urgently desired in the interest of our German bicycle industry. Its condition will be entirely untenable as soon as the scheme of an American syndicate of bicycle makers in Germany becomes an actuality.

In connection with this memorial, the Bochumer Zeitung remarks that, since the new American tariff will have to be met in Germany by duties levied on articles that were made in the United States, the raising of duty on foreign bicycles must be one of the first concerns of Government.

While giving this memorial, without further comment, I will merely call attention to the fact that good American wheels retail for from 400 to 450 marks ($95.20 to $107.10), so that their quality must be very superior if they can make any headway in the German home market against German wheels selling at from 170 to 230 marks ($40.46 to $54.74).

It is not because they are foreign wheels that they sell rapidly at the highest prices, but because they are the strongest, lightest, soundest, and most elegant in shape. They have quite taken the field from Belgian, Austrian, and British wheels. I would further say that large concessions could be made with safety to the Germans in the way of lower duties on German-made bicycles, because the German public is now so well convinced of the superiority of our wheels that we hold the market, and will continue to hold it as long as our wheel makers keep to their high standard of work. A concession made in the tariff expressly to meet the protest of German manufacturers may prove useful in this way: It may prevent a violent perversion of some customs regulation, the object of which perversion would be to levy, directly or indirectly, a large duty on American wheels.

CHARLES DE KAY,
Consul-General.

BERLIN, *June 12, 1897.*

ANOTHER REPORT ON THE BICYCLE TRADE IN GERMANY.

Consul Monaghan sends from Chemnitz, under date of June 12, a report giving substantially the same facts as those mentioned by Consul General de Kay. The consul adds that, while United States bicycles are much superior to those made in Germany, he thinks that the inevitable tariff legislation will prevent a permanent trade. It is not necessary to await the action of large legislative bodies in Germany, the Bundesrath and the Emperor can inaugurate and pass measures that will seriously obstruct the import of wheels He says that the $100 wheels from the United States will not sell except on the installment plan. The best opening is for wheels costing from $50 to $60. It is difficult to sell those costing from $75 upward. One of the drawbacks to the trade in Germany is the ease with which skillful workmen get parts and put them together. With little rent and few taxes to pay, these men are able to sell from 5 to 20 per cent cheaper than the large manufacturers

BICYCLES IN RUSSIA.

So many inquiries come to this consulate-general from American bicycle manufacturers in regard to the bicycle trade in Russia that I concluded to get all the facts obtainable and make an official report on the subject.

Bicycling in Russia is in its infancy. In this northern part, there is very little, except in the summer months, because in winter the snow is deep and the weather cold. Before a person is allowed to ride a wheel on the streets of this city, a permit is necessary, which is issued by the city administration, under the following regulations: The applicant must first pass an examination on the wheel before one of the cycling associations of St. Petersburg. When he has received a certificate, he sends it with an application to the city administration. Although the permit is given gratis, the cost of revenue stamps and of the little book containing rules and regulations regarding bicycle riding in the city amount to 2.20 rubles ($1.13), which must be paid by the applicant before the permit is obtained. Such permit is good for one year, which begins always with the 1st of May. Upon payment of the required amount, a registered number for the bicycle is issued with the permit. The number, in plain white figures on a red plate, must be fastened to the wheel both on the front and back so as to be clearly visible to the police and the public in case of any mishap or disobedience of the prescribed regulations for bicycle riders. One plate, with the number on both sides, is fastened to the frame in front, below the handle bar, sticking out so that the number can be seen from either side, and one plate is fastened to the frame behind, below the saddle, in such a way as to be in full view when the person is sitting on the saddle. The regulations being of interest, I will give them in full:

(1) Bicycle riding in the streets of the city, except on the streets mentioned in paragraphs 15 and 16, is allowed only on low, two-wheeled bicycles or on bicycles of other types which are considered by the city administration not dangerous. Only those persons of proper age, who have received a permit from the St. Petersburg city administration, can ride.

Remark 1.—The permit must bear the name of the proprietor, and is given only to persons who know how to ride a bicycle.

Remark 2.—By city governor's special order, the person who receives a permit to ride a bicycle must give a photograph of himself, which is attached to the permit.

(2) Every person who has received a permit to ride a bicycle in the city is supplied by the city administration with a number. He must have on his bicycle a bell, and after dark a lighted lantern.

Remark.—The kind of tag, the time and way in which it must be attached to the bicycle are established by the city administration and confirmed by the city nor.

(3) Each person riding a bicycle must carry with him the permit, with the present regulations printed in it.

(4) Fast riding or racing in the city is not allowed.

(5) Riders must always keep to the right, as near to the sidewalk as possible.

(6) Riders must pass foot passengers and equipages on the left-hand side, if possible.

(7) In overtaking a foot passenger or an equipage, the bicycle rider must in due time ring the bell, and he must pass slowly. To ring without need is prohibited.

Remark.—No other signals except bells are allowed.

(8) In case horses should take fright at a bicycle, the rider must stop and alight.

(9) In turning a corner or in crossing a street, the bicycle must be ridden very slowly and the bell rung.

(10) In localities where there is much public traffic and many equipages, riders must alight and lead their wheels.

(11) When several bicycle riders are together, they must ride one after the other, at a distance not less than 14 feet between each bicycle.

(12) It is prohibited to ride or lead a bicycle on sidewalks, roads for pedestrians, boulevards, squares, and parks.

(13) Riding a bicycle in the city in a racing costume, without a coat, or in such a costume as would attract special attention is prohibited.

(14) The riding of bicycles can be stopped on some streets by order of the police, in the following cases: (*a*) During the time when their Imperial Majesties are expected to pass; (*b*) during religious processions; and (*c*) in places where there is a large gathering of people and equipages.

(15) The riding of bicycles is not allowed on the Nevski Prospect from the corner of the Admiralty Place up to the Police Bridge, nor in the Summer Park.

(16) The city governor has the right to prohibit the riding of bicycles in some of the streets of the city.

(17) A person violating these regulations may be deprived by the police of his permit; he may also be brought by the police before the court.

Up to the 1st of February, 1897, ladies were not allowed to ride a bicycle on the streets of the city of St. Petersburg; since that time, permission has been granted. There are four cycling clubs in this city and three in the suburbs. The number of registered wheels in St. Petersburg is a little over seven thousand.

Bicycles of Russian, American, English, and German make are sold here. The principal imports are from Germany and England. Two came from the United States last year. Five bicycle factories are established in Russia—two in St. Petersburg, one in Moscow, one in Warsaw, and one in Riga. There are a number of small ones, which can not really be called factories, being simply shops. They buy principally from abroad (either England or Germany) unfinished parts of bicycles, which they finish and put together here. The two largest factories in this country are the Singer Cycle Company, at Warsaw, and the Humber Works, in Moscow, both branches of English bicycle manufacturing companies. It can not be denied that the American wheel would lead in Russia, but it is too expensive for the people who use the bicycle most here. With them, money is the first object, and quality a secondary consideration. The Russian bicycle retails here at from 80 to 130 rubles ($42 to $67); the German, from 150 to 180 rubles ($77 to $92 50); the English, from 160 to 250 rubles ($82 to $128.50); and the American, from 200 to 250 rubles ($103 to $128.50).

It is true that only high-grade American wheels have so far been on sale here, and that preference is given them on account of finish, lightness, and running and lasting qualities, but the difference in price over the Russian and German wheels is too great.

The total number of bicycles imported into Russia during 1896 was 10,609. The duty per bicycle, whether for a child, adult, or tandem, is 12 rubles in gold ($9.26) per piece. For bicycle parts, finished, 8 rubles ($6.18) per pood (36 pounds); unfinished cost less, being taxed according to the material. For the reason that the bicycle trade in Russia is in its infancy, there are no large jobbers in bicycles or bicycle parts here; but the dealers keep much the same stock, and each also handles some of the parts.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *May 24, 1897.*

THE BICYCLE TRADE IN NEW SOUTH WALES.

"By leaps and bounds" fairly well expresses the bicycle trade in New South Wales during the last three years, as well as in other countries.

The following table, showing imports, was furnished by the New South Wales Government statistician. It covers the calendar year 1896.

Imported from—	Quantity.	Value.	
Australasia:	*Packages.*		
Victoria	1,042	£23,315	$113,462.45
Queensland	50	951	4,628.04
South Australia	245	5,248	25,539.08
Western Australia	5	105	510.98
Tasmania	11	206	1,002.50
New Zealand	11	178	866.24
United Kingdom	*1,996	103,559	503,969.87
Canada	494	16,460	80,102.60
France	23	879	4,277.65
Germany	135	3,666	17.840.59
Italy	2	174	846.77
United States	*2,146	50,758	247,013.81
Total	6,160	205,499	1,000,060.58

* The "package" for the English wheel contains five or six machines, while the American wheels are packed singly, usually.

To secure the most reliable results, I submitted over thirty questions to leading dealers in Sydney, and, from a comparison, I submit the following as an approximately correct review of the situation.

The roads in New South Wales are not especially well adapted to cycle riding, as much of the country is hilly, and many of the highways are sandy. The streets of Sydney are finely paved with hardwood blocks, which are as suitable as asphalt for the wheel, but the land upon which the city is built being undulating, there are several grades sufficiently steep to greatly increase the labor of the "cycler."

Racing, I think, has reached its climax, and "upper tendum" takes to the wheel with average English conservatism. While the wheel has come to stay, the boom is past, and the business is almost overdone.

There are practically no bicycles made in Australasia, so they are imported from the United Kingdom, United States, Canada, and a few from France and Germany.

The introduction into Australia in the eighties of the "ordinary" bicycle, really marked the beginning of the era when bicycles were first imported in appreciable numbers. The "ordinaries" became more numerous each year, until the season of 1889–90, when the "safety," or chain, bicycle made its appearance, since which time imports have increased very rapidly Fully 300 machines were imported into Sydney in 1890; the following year the number rose to 700, and in 1892, to 1,000 The use of the pneumatic tire gave an additional impetus to the trade, and in 1893, the imports were 1,500; in 1894, 3,000; and in 1896, quite 6,500. American wheels were not imported until early in 1896, since which time they have come in large and increasing numbers.

As bicycles are admitted free of duty, there are none in bond in Sydney, but the number "warehoused" is approximately 3,000 and the number in stock 2,000. The proportion of American wheels at present is about 33 per cent of the whole.

Until last year not more than 5 per cent of the machines imported were ladies' wheels, but the proportion of the present stock has been raised to 10 per cent All the leading American and English manufactories are represented in Sydney—thirty in all There is but one wholesale dealer (who, however, carries on a retail business as well), though several of the larger importing houses carry on a semiwholesale business. These have also established branches of their agencies in the principal country towns The number of retail dealers in the metropolis is about fifty.

The average weights of the various descriptions of English machines are as follows. Racer, 22 pounds, road racer, 25 pounds:

roadster, 29 pounds, ladies', 29 pounds. Machines are imported from England, the United States, Canada, France, and Germany in the following proportions: England, 60 per cent; United States, 33 per cent; Canada, 5 per cent; France, 1 per cent; Germany, 1 per cent.

There is a prejudice against the cheap English and American machines, especially the latter. Wheels of French and German manufacture are not popular and are losing ground.

The leading importing depots have their repair departments. As a rule, skilled mechanics are employed and repairs are furnished at reasonable rates.

In New South Wales, the use of the wheel is still increasing, but there is already too much competition in the trade. This is demonstrated by the fact that two firms have recently abandoned the trade, while others are likely to follow their example.

Special representatives of foreign firms find great difficulty in arranging suitable agencies. The established agencies will not readily undertake the sale of a "new" wheel. There is no decline in the interest taken in bicycle sports, despite the large number of "meets" nor in the wheel's use as a fixed utility Professional men are among the most enthusiastic votaries of the new mode of locomotion. It can not be said that the chief users of the wheel belong to any particular class; all grades of society use the cycle, while clerks, tradesmen, and mechanics largely avail themselves of the wheel to ride to and from business.

Ladies, in very large and increasing numbers, are taking to the wheel as a pastime in Melbourne, where the streets are level and wide, while in Sydney there are two ladies' cycling clubs, both of which were organized last year

American wheels are sold to the trade at a figure equal to 45 per cent off the selling price. English machines are sold to agents at 15 per cent commission off, and to buying agents at from 20 to 25 per cent off. The terms of retailers are: One-fourth cash, balance in twelve equal monthly payments, bearing 10 per cent interest. The security, in case of time payment, is the machine itself If a man in New South Wales sells his wheel before the last payment is made, he may be convicted on charge of larceny, as bailee. The losses on machines sold on the time-payment plan are very light—not more than 2 or 3 per cent.

The class of machines purchased for cash are mostly of high grade, while those bought on time payment include both high and low grade.

The cash price in Sydney for high-grade wheels of English make varies between £26 and £30 ($126.43 and $146), for American wheels of the same description the prices range from £20 to £25 ($97 33 to $121.66). In time-payment cases, the prices are as above quoted, with interest at 10 per cent added.

Owing to the large number of agencies established in Sydney during the past twelve months, the outlook for the next year is not very reassuring. In Melbourne, the prospects for the future are even more discouraging. In Victoria, it is estimated that there are at present from 10,000 to 12,000 machines in bond and the same number in stock. The supply has so far exceeded the demand that agents are selling below cost price, so as to clear out their stocks. Others are returning consignments to England, without taking the wheels out of bond. Some months ago, when the trade was booming in Melbourne, all kinds of tradesmen, tobacconists, drapers, ironmongers, music sellers, and others undertook the sale of machines, believing there was a large margin of profit in the trade. Many of these retailers had no knowledge of the trade, and they are now paying the penalty, relinquishing agencies where possible and selling at a loss. In Sydney, the position is, to some extent, the same. The prices of low-grade wheels are being reduced and the prospects of, say, 50 per cent of the retailers are gloomy. The oldest and best-managed establishments will survive, but many of the others must gradually retire from the business.

In response to an inquiry, I received the following from one of the best-informed and most extensive dealers in Australia:

> In Sydney, the lowest priced English bicycle is £8 ($38.93) and some American machines are sold at the same price. In Melbourne, two separate firms are now advertising new American bicycles at £8 to £10 ($38.93 to $48.66) which were three months ago sold at £21 and £22 ($102.20 and $107.06), and this is the chief reason why the trade is at a standstill, as the public are expecting there will be a corresponding slump in English and American high-grade wheels.
>
> It would be highly injudicious for any American firm to send a traveler out here in the hope of placing their machines with local agents. Should any American firm wish to trade in New South Wales, it would be absolutely imperative for such firm to open a store or depot on its own account and be prepared to enter into the business on the same lines as established houses and take any trade that should offer, both for cash and deferred payments. Several American representatives have been here recently and have failed to satisfactorily negotiate for buying agents.
>
> The proportion of cash sales would be equal to about 20 per cent of the total output.
>
> No accurate idea can be gained from the board of trade statistics in England and America of the number or value of machines sold in Sydney, principally because nearly all the head offices of the English machines are in Melbourne and all machines are sent there first and forwarded to Sydney afterwards, and likewise a few American firms ship to Sydney first and the machines are distributed afterwards from this center throughout the other colonies.
>
> In no sense of the word can it be said there are any manufacturers of bicycles in New South Wales. Probably not thirty machines are put together in Sydney in twelve months. In Melbourne, there are upwards of one hundred hands employed

in building machines and there is a grand opportunity for some enterprising American firm to establish a manufactory in New South Wales.

I believe the trade in Sydney is a permanent and valuable one. The people are in good circumstances, and, with proper business methods, there need be few losses. There is now a strong probability that the Post-Office Department will soon make a very general use of the wheel, and for the defense department there is already an agitation for the bicycle.

If these departments take to their use, the general public will be strongly influenced by the example, as the civil and military services exercise a strong influence on the public taste. I believe, in the last estimates for his department, the Postmaster-General asked for £1,000 ($4,866.50) for bicycles for the telegraph messengers. This is the thin edge of the wedge.

GEO. W. BELL,
Consul.

SYDNEY, *May 10, 1897.*

BICYCLES IN NICARAGUA.

Since the publication of the decree announcing a reduction of the duties on bicycles imported into Nicaragua,* I have received several letters from manufacturers of bicycles in the United States, asking me to give them aid in introducing their wheels in Nicaragua by suggesting any changes in style, finish, tires, or rims that the trade in this country may call for.

I beg to state that the cheaper class of wheels made in Germany will not do for this country, and in regard to American wheels for use in Nicaragua and Central America in general, I would recommend that the wheels be built a little heavier and less tempered than those used in the United States, for the roads and streets here are very rough, and the people using the wheels so far imported from the United States are complaining of their being too lightly built and too highly tempered. It would be well also to make the rim of the best seasoned wood obtainable or of steel, on account of the climatic influences in the tropics. Last, but not least, as the manner of presentation of any article in this country goes very far with the buyer, I would suggest that the wheels sent to or manufactured for this country should be neatly finished, and wear, at least, a name plate.

PAUL WIESIKE,
Consul.

MANAGUA, *May 31, 1897.*

---

* Published in CONSULAR REPORTS No. 201 (June, 1897), p. 268.

AMERICAN MACHINES IN GERMANY.

It seems that the enormous development of German industry during the last few years is about to benefit the machine-making industry of the United States. It has just been announced that the German Ammunition and Small Arms Factory (Deutsche Munitions und Waffenfabrik), at Berlin, has given an order to an American firm (the Cleveland Machine Screw Company, Cleveland, Ohio), for nearly $120,000 worth of machines for making steel balls for bicycles. This article used to be made almost exclusively in Germany, at Schweinfurt, in this consular district (Bamberg), and exported to the United States in small quantities. The export of this article amounted to $20,877.43 during the last four quarters. The manufacturers at Schweinfurt had hitherto been considered to have a sort of monopoly, *i. e.*, to be the sole possessors of patents for the manufacture of such balls. It came, therefore, as a surprise to those connected with this trade in Germany that the requisite machines (in German, "Fraesmaschienen") were also being manufactured in the United States, and even exported thence to Germany.

What phenomenal development this steel-ball industry has experienced is shown by the fact that an English syndicate offered $1,000,000 for a Schweinfurt factory (Deutsche Gusstahl Kugelfabrik), which is devoted exclusively to the manufacture of these balls and which was made a joint-stock company twelve months ago with a capital of only $150,000. The same concern produced, after the first year, a balance sheet showing net profits amounting to about $87,000—and this with a capital of $150,000.

Quite a number of ball factories have sprung up in this district during the last few months, one of which is situated in this city. If these have only been partially started, it is because it is impossible to procure the necessary machinery, for many of the large machine-building works in Germany are fully engaged for more than ten months ahead and do not take an order without stipulating delivery within a year. This circumstance ought to be turned to more profitable account than hitherto by our engineering works in the United States. American makers of machinery fit for export ought—after having taken out the necessary patents and thus protected their articles against imitation as much as possible—to look about in Germany, either personally or by efficient representatives. Catalogues printed in English, such as are received by consular officers, are of little value in Germany.

In conclusion, attention may be called to the fact that the firm which is constructing the electric street railway in this city has lately been awarded the contracts for building the tramways at Liegnitz (Silesia) and Fiume (Austria). The firm works with the patents of an American establishment (the Walker Electric Company, Cleveland, Ohio), and obtains the electric machinery from this American firm only.

LOUIS STERN,
Commercial Agent.

BAMBERG, *May 14, 1897.*

GERMAN CREDIT ASSOCIATIONS.

In 1849, Hermann Schulze, of Delitzsch, started an association of shoemakers and cabinetmakers, mainly for the purpose of buying the needed raw material—leather and wood—in common. The fact that small traders and mechanics were often unable to obtain credit, and were thus driven into the hands of usurers, was his leading motive. A year later, the first credit association was formed. Its main feature was that borrowers were obliged to become members. In 1852, unlimited liability of the members was introduced, and this feature lent such additional strength to the associations that they rapidly developed and extended all over Germany, so that now the combined associations throughout the country furnish to their members an annual credit of over 2,000,000,000 marks ($476,000,000). The bulk of this business is done by the Schulze-Delitzsch credit associations.

Although under the new law (Genossenschafts-Gesetz) of May 1, 1889, the liability of the members may be limited, most associations retained the unlimited-liability feature, as years of experience had demonstrated its wisdom and great advantages.

A credit association is mainly an association of people of small means—farmers, artisans, tradesmen, etc.—who, from the nature of their business and their limited capacity, are unable to obtain credit from the banks. Its main object is to procure a safe and cheap credit for its members, and for this purpose it transacts a general banking business. To accomplish this, credit associations must either create a common fund—a working capital—or borrow money. The Schulze-Delitzsch credit associations have always laïd particular stress upon the formation of a common fund, and, with this fund and the unlimited liability of the members as a further guaranty, additional outside funds or credit could always be obtained. The working capital of the association consists of the amounts paid in by the members and the reserve fund. The members are bound to contribute regularly to the common fund until their shares have reached the limit fixed by the statutes. These contributions are made in small amounts to enable all members to properly fulfill their obligations. The initiation fee is from 3 to 10 marks (71 cents to $2.38). The maximum contribution to the working capital to be received from any member is about 1,500 marks ($357); but a minimum of, generally, 150 marks ($35 70) must gradually be contributed. The quarterly payments are at least 3 marks (71 cents), until the minimum of 150 marks ($35.70), or any other amount up to the maximum of 1,500 marks ($357), is reached. By these regular contributions, the members will not only soon create a handsome capital stock, on which the association can obtain additional outside funds and credit, but they are also taught to arrange their mode of living and doing business with a view to saving—another benefit which the association silently bestows upon them. Great stress is laid upon the formation of a reserve fund, to provide for any losses or deficiencies, and thus avoid calling upon the members for assessments. The initiation fees and a small portion of the annual profit are used to form and increase this fund. We find now in Germany credit associations which, from small beginnings, have accumulated a capital stock of several million marks.

In the beginning, credit associations should always have sufficient means to cover at least 10 per cent of the borrowed funds. After three or four years, their own working capital should amount to 20 or 25 per cent, and with older associations, to 50 per cent, of the borrowed funds. A reserve fund should in time be accumulated, amounting to at least 15 per cent of the working capital. Under these conditions, associations have no difficulty in finding the needed credit; on the contrary, they are often offered more money than they need for their members, a fact which has induced some of them to venture into enterprises foreign to their mission, sometimes to the detriment of their members. As the working capital accumulates, confidence in these associations increases, money and credit can be obtained on easier terms, and in return the members can be served cheaper and better. We find, therefore, in these credit associations, people's banks in the fullest sense of the word. To make a success of a credit association, it is primarily necessary that the board of management should consist of highly reputable citizens, men who have lived in the community for years and are known for their honesty and business capacity. It is true that not all credit associations have been successful, but the number of the unsuccessful is small compared with those which have made their mark. Lack of proper interest by the members in the business transactions, giving excessive credit to members, and extending the sphere of operation to fields foreign to the purposes and intentions of such associations, have brought some of them to grief. If this is avoided, which can easily be done by the watchfulness of the members, these associations have uniformly proved to be a success.

Membership should not be confined to one, but should include all trades, mechanics, and farmers, for it generally happens that a particular trade flourishes or languishes and the members thereof either all have a surplus of money or all need credit. On the other hand, if all classes of tradesmen, mechanics, and farmers are included, the surplus of the one is generally wanted by some other, and the supply and demand are thus regulated.

By the new law (Genossenschafts Gesetz of May 1, 1889), associations incorporated thereunder acquire the rights of judicial persons, which has made it advisable for most of them to reincorporate.

In the meetings of the association, each member, be his contribution large or small, has one vote, and, as in these meetings all important business affairs are discussed and voted upon and, in general, the business rules and principles laid down, all members have equal rights and duties in the management. The principal rights which the members have to execute through their vote in the general meetings are the following: Alterations in the statutes, fixing the amount of money to be borrowed, limiting the credit to the members, and the amounts to be received by each, examining and approving the accounts and disposing of the profit, electing the board of management or removing members of the same, purchasing and selling property, examining complaints against the management. It is in the interest of the association that members of the board are freely changed and new blood infused into the management; and, as one of the principal aims of these associations is to educate its members to sound business principles, each member should in time be so educated as to be able to take an active part in the management.

The main business of furnishing credit to its members is done by making loans against personal notes, stocks, bonds, or other securities, discounting bills of exchange, opening credit in account current. Loans against notes are made for three months or less, and one good indorsement is required as security. Loans made to farmers are generally made payable after the harvest. The discounting of bills of exchange based upon actual business transactions is considered the best and safest business for an association. Bills of exchange must run no longer than three months and must bear two good indorsements. The loaning of money on domestic stocks or bonds is also a safe investment, provided industrials or other papers which are not quoted on the exchange are avoided. Members who have an account current may draw against the credit allowed to them. If a member's account shows at any time a balance due him, he receives on such balance 2 per cent less interest than he must pay on his debits. No account should be opened unless the business done during the year equals at least twice the amount of the credit given. The credit should be secured by personal notes, stocks, bonds, mortgages, or guaranty furnished by responsible parties. Credit associations should also aid their members in any other work in which they need the assistance of a bank. Among these are collecting notes and bills of exchange, purchase and sale of stocks and bonds, collecting coupons and dividends, exchanging foreign money, issuing checks, drafts, and letters of credit on European and transatlantic places, safe-keeping of stocks, bonds, and other valuables, administering moneys and stocks. They should take care of members' surplus moneys and profitably invest the same and should become the best and safest savings bank for laboring men, servants, and other people of small means. To facilitate the collecting of notes, etc., most associations belong to the so-called "Giroverband," an association of associations established for the purpose of collecting for its members, free of charge, any notes or other papers payable in the various localities of the several associations. The settlements are made through the Deutsche Genossenschaftsbank of Soergel Parrisins & Co., in Berlin and Frankfort, which acts as a clearing house and central bank for the various associations.

The board of management must, at the end of each year, take an inventory of the property of the association, prepare the balance sheet, and make recommendations as to the division of the profit. All doubtful claims should be eliminated and transferred to a separate account. The reserve fund may be drawn upon to cover any loss or deficiency at the end of the year, but it must never be used to pay or add to the dividends. A special reserve fund may, however, be created for this purpose. Associations owning stocks or bonds should create a special reserve fund to provide against losses caused by a decline in value. If the assets and reserve fund are not sufficient at any time to cover the obligations, the deficiency must be made up by the members, each member bearing an even share. A certain amount of the yearly profit is added to the reserve fund, until the latter reaches the limit fixed by the statutes. The balance of the profit is divided among the members according to their credits at the end of the preceding year. It is not the object of a credit association to earn large dividends for its members, but to provide a cheap credit for them. The dividend should only be sufficiently large to induce people of small means to use the associations as savings banks in preference to other institutions. If these associations purposed to earn large dividends for their members, they would have to charge higher rates for loans and other services, which would be contrary to the very purposes they are organized for.

The board of management must also submit, at the end of each year, a minute report, giving members a clear inside view of the workings of the association. The statement of assets should give a detailed report of the cash on hand, stocks, bonds, notes, bills of exchange, mortgages, balances due from banks, other associations, or members, interest due and receivable, furniture and other personal property, real estate. The schedule of liabilities should show members' credits, reserve fund, special reserve funds, foreign moneys, deposits on call or on longer terms, bills payable, balances due to banks and other associations, interest due and payable, and annual profits.

The profit and loss account should give a minute description of the various items, to enable the members to clearly judge how and where the money was earned and how and where it was expended in paying interest, expenses of management, etc.

I give below some figures from the annual report for the year 1896 of one of these credit associations, founded in 1865. They show better than words what thirty-one years' cooperation of people of small means has accomplished.

MEMBERSHIP.

Class of members.	Male.	Female.	Class of members.	Male.	Female.
Farmers	1,373	170	Manufacturers	18	3
Farm hands	35	7	Saloon and hotel keepers, shippers, and cartmen	119	22
Mechanics (bosses)	785	123	Postal and railroad clerks	190	5
Workingmen	103	5	Servants	13	19
Officers, teachers, and physicians	314	49	Total	3,237	673
Merchants and traders	220	27	Associations	4	
Clerks	39	5			
Private persons	28	238	Grand total	3,914	

CREDITS.

The amount standing to the credit of the members was 1,467,690 marks ($349,310). Fifteen hundred and twenty-two members had a credit of less than 150 marks ($35.70), 1,130 members from 150 to 300 marks ($35.70 to $71.40), 303 members from 300 to 450 marks ($71.40 to $107.10), 348 members from 450 to 600 marks ($107.10 to $142.80), 575 members from 600 to 1,000 marks ($142.80 to $238), and 300 members from 1,000 to 1,500 marks ($238 to $357). The accounts of 264 retired members are included in this specification.

The reserve fund was 170,234 marks ($40,515.70), or 11.6 per cent of the members' credits; the special reserve fund for dividends, 44,262 marks ($10,534.35); and for stocks, 8,867 marks ($2,110.35); total reserve, 223,363 marks ($53,160.40), or 15.2 per cent of the members' credits.

The total business transactions during the year amounted to 56,128,232 marks ($13,358,519.22).

LOANS.

Loans to the number of 11,786 were made, amounting to 4,335,314 marks ($1,031,804.73), of which 7,152 loans, amounting to 2,675,654 marks ($636,805.65), or 61.7 per cent, were made to farmers.

Amount of each loan.	Number of loans.	Amount of each loan.	Number of loans.
Under 100 marks ($23.80)	2,194	1,000 to 3,000 marks ($238 to $714)	462
100 to 200 marks ($23.80 to $47.60)	3,167	3,000 to 5,000 marks ($714 to $1,190)	70
200 to 500 marks ($47.60 to $119)	4,341	5,000 to 10,000 marks ($1,190 to $2,380)	39
500 to 1,000 marks ($119 to $238)	1,503	Above 10,000 marks ($2,380)	10

DISCOUNTS.

Bills of exchange and notes to the number of 4,724, amounting to 5,792,412 marks ($1,378,594.06) were discounted, of which 1,112, amounting to 2,596,393 marks ($617,941.53), or 44.8 per cent, were discounted for farmers. Of these notes and bills, 268 were below 100 marks ($23.80), 812 were from 100 to 200 marks ($23.80 to $47.60), 1,273 were from 200 to 500 marks ($47.60 to $119), 847 were from 500 to 1,000 marks ($119 to $238), 952 were from 1,000 to 3,000 marks ($238 to $714), 333 were from 3,000 to 5,000 marks ($714 to $1,190), 185 were from 5,000 to 10,000 marks ($1,190 to $2,380), 35 were from 10,000 to 15,000 marks ($2,380 to $3,570), and 19 were above 15,000 marks ($3,570).

Two hundred and nine members had open accounts, on which they transacted a business of 3,298,575 marks ($785,060.85); 51 farmers had open accounts, in which a credit of 297,750 marks ($70,864.50) was granted to them; 40 members obtained collateral loans against stocks and bonds amounting to 1,042,400 marks ($248,091.20), and 5 members against merchandise, amounting to 177,000 marks ($42,126).

RATES OF INTEREST.

On—	Jan. 1 to Sept. 8, 1896.	Sept. 8 to Oct. 12, 1896.	Oct. 12 to Dec. 31, 1896.
	Per cent.	*Per cent.*	*Per cent.*
Bills of exchange	4	4½	5½
Notes	4½	5	6
Account current	5½	6	6½
Loans on merchandise	5½	6	6½
Loans on stocks and bonds	4	4½	5½

Owing to the stringency in the money market at the close of the year, the rates of interest were exceptionally high. Notes and bills of exchange were collected for the members to the amount of 91,715 marks ($21,828.17).

SAVINGS BANKS.

The savings-bank account shows a balance of 860,122 marks ($204,709.04) in 2,993 accounts drawing 3 per cent interest on six months' call.

DEPOSITS.

The deposit account shows a balance of 896,959 marks ($213,476.24), divided as follows:

Description.	Number of accounts.	Amount.	
		Marks.	
On daily call, drawing 2 per cent interest	190	388,849	$92,546.06
On 3 months' call, drawing 2½ per cent interest	23	19,100	4,545.80
On 6 months' call, drawing 3 per cent interest	152	170,810	40,652.78
On 12 months' call, drawing 3½ per cent interest	218	318,200	75,731.60
Total	583	896,959	213,476.24

The net amount of borrowed outside money was 1,757,080 marks ($418,185.04) at the end of the year; the net amount to the credit of the members, including reserve funds, was 1,691,054 marks ($402,470.85), or over 90 per cent of the borrowed money.

EXPENSES.

Description.	Amount.	
	Marks.	
Salaries of the board of management	10,650.00	$2,534.70
Salaries of bookkeepers, clerks, and auditor	6,930.00	1,649.34
Rent, heat, and lights	1,766.86	420.51
Stationery and printing	1,069.38	254.51
Newspapers and books	133.70	31.82
Taxes and legal expenses	2,112.95	502.88
Postage	344.12	81.90
Deficiency fund	900.00	214.20
Advertising	336.46	80.08
Expenses attending general meetings of credit associations	501.80	119.43
Subscription to the general fund of credit associations	220.00	52.36
Other expenses	171.25	40.76
Total	25,136.52	5,982.49

No losses were incurred during the year.

PROFITS.

The net profit was 104,312.29 marks ($24,826.32), to be divided as follows:

Description.	Amount.	
	Marks.	
To the members:		
5 per cent dividend on 1,336,949 marks ($318,193.86)	66,847.45	$15,909.69
1 per cent extra dividend, payable in 1900	13,369.49	3,181.94
Remunerations	1,150.00	273.70
To the reserve fund	3,559.11	847.07
To the special reserve funds	1,886.24	448.92
Carried forward to 1897	17,500.00	4,165.00
Total	104,312.29	24,826.32

MISCELLANEOUS.

The foregoing statement shows that in this association 40 per cent of the members belong to the farming class, 61.7 per cent of all the loans were made to farmers, and 44.8 per cent of the notes and bills of exchange were discounted for farmers; so that farmers are the principal recipients of its benefits. In localities where the farming element is less predominant, other trades will probably be equally favored; but, as a rule, the farmers are well represented.

Why should it not be possible to start similar associations in the various townships of our agricultural States, thus enabling our farmers and small traders to obtain money and credit at reasonable rates and be their own bankers? It can surely be done if these matters are properly ventilated through the press and their advantages duly demonstrated to the farming community. It is cooperation in all conceivable forms, not State aid, which has brought German industry, commerce, and agriculture to their present height, and their systems are well worth studying.

JULIUS MUTH,
Consul.

MAGDEBURG, *March 31, 1897.*

SEAMEN'S BUREAU OF HAMBURG.

The number of vessels owned in Hamburg at the close of the year 1896 was 295 sailing vessels, with about 3,390 men, and 389 seagoing steamers, with about 12,236 men; total, 684 vessels, with about 15,626 men, against 653 vessels, with about 15,105 men, in 1895. Finkenwärder deep-sea fishing craft, 158 sailing vessels, with about 474 men. There were shipped and discharged 3,383 vessels, with 75,982 men, and 688 Finkenwärder deep-sea fishing vessels, with 849 men; total, 4,071 vessels, with 76,831 men, against 3,779 vessels, with 73,739 men, in 1895.

Money handled under all accounts—owners' money, depository, dues, printing expenses, fines, expenses for transports home, inheritances, deposits, expenses of supervision, and office expenses—amounted to $3,151,753.83.

The correspondences held concerning military matters amounted to 24,500, against 19,000 in 1895; concerning transporting home, law matters, death and birth cases, inheritances, shipping articles issued, matters of the Seamen's Bureau, accident cases, etc., 8,976, against 8,694 in 1895; summonses issued, about 1,200, against 1,400 in 1895; total correspondence, 34,676, against 29,094 in 1895.

Permissions to ship on foreign vessels were issued to 907 Germans, viz.: American vessels, 4 cases; Danish, 42; British, 640; Dutch, 1; Italian, 20; Norwegian, 109; Austrian, 21; Swedish, 11; Russian, 13; Belgium, 43; Chilean, 3.

There were 31,843 men shipped on large vessels.

Description.	Germans.		Foreigners.	Total.
	Hamburgers.	Others.		
Officers	323	1,761	17	2,101
Surgeons	7	336	11	354
Storekeepers	50	221	....	271
Carpenters	105	648	28	781
Boatswains	30	697	30	757
Cooks	188	1,619	47	1,854
Quartermasters	26	656	19	701
Sailmakers	1	16	13	30
Able seamen	345	4,598	584	5,527
Ordinary seamen	82	341	31	454
Boys	398	545	4	947
Stewards and stewardesses	1,025	2,820	58	3,903
Engineers and assistants	1,003	2,254	43	3,300
Firemen	1,229	8,111	468	9,808
Miscellaneous	276	759	20	1,055
Total	5,088	25,382	1,373	31,843

Among those shipped, there were 30,958 on 671 steamers and 885 on 46 sailing vessels.

Among the 1,373 foreigners shipped were: Four Africans, 31 North Americans, 10 South Americans, 4 Belgians, 1 Chilean, 78 Chinamen, 251 Danes, 13 Britons, 6 Frenchmen, 1 Greek, 61 Japanese, 2 Italians, 29 Dutch, 59 Austrians, 147 Russians, 554 Swedes and Norwegians, 12 Swiss, 6 Spaniards, 77 East Indians, and 27 West Indians.

There were 238 deaths registered at the Seamen's Bureau, of which 188 were seamen on German ships, 18 were German seamen on foreign ships, and 32 were passengers on German ships.

The 188 cases of death of seamen on German ships were distributed, according to nationality, as follows:

Description.	Germans.		Foreigners.	Total.
	Hamburgers.	Others.		
Captains	2	10	....	12
Officers	....	10	....	10
Storekeepers	....	1	....	1
Carpenters	....	5	1	6
Boatswains	....	6	....	6
Cooks and bakers	....	11	....	11
Quartermasters	....	1	....	1
Sailmakers	....	1	....	1
Able seamen	4	30	11	45
Ordinary seamen	3	17	1	21
Boys	2	3	1	6
Stewards and stewardesses	2	10	....	12
Engineers and assistants	....	11	....	11
Firemen	1	24	12	37
All other	....	7	1	8
Total	14	147	27	188

Of these 188 deaths, 94 were caused through illness, 18 were caused through suicide, and 76 through accident.

Among the 94 cases of death caused through illness, were 13 cases of yellow fever originating from the east coast of South America, 2 of yellow fever originating from the West Indies, 2 of malarial fever originating from East and West Africa, 1 of cholera originating from Calcutta, 1 of asthma, 2 of beriberi, 1 of blood poisoning, 1 of dysentery, 1 of bursting of blood vessel, 2 of paralysis of the brain, 1 of brain fever, 1 of inflammatory rheumatism, 5 of heart apoplexy, 1 of heart disease, 1 of paralysis of the heart, 2 of sunstroke, 2 of inflammation of the lungs, 3 of consumption, 1 of stomach disease, 3 of apoplexy, 1 of typhoid fever, 1 of inflammation of the bowels, 2 of dropsy, and 44 of unknown diseases.

Abstract of deaths.

Year.	Shipped.	Died.	Per cent.
1873	15,338	181	1.18
1890	32,983	131	0.4
1891	36,989	271	0.74
1892	34,834	437	1.25
1893	36,368	252	0.69
1894	37,146	214	0.58
1895	38,193	173	0.45
1896	39,726	188	0.47

The following cases of desertion were registered at the Seamen's Bureau:

Description.	Germans.		Foreigners.	Total.
	Hamburgers.	Other.		
Officers	....	1	....	1
Carpenters	....	3	....	3
Boatswains	....	3	1	4
Cooks	....	3	1	4
Sailmakers	....	1	1	2
Able seamen	1	63	15	79
Ordinary seamen	1	17	2	20
Boys	7	26	1	34
Stewards and stewardesses	12	50	1	63
Engineers and assistants	1	11	....	12
Firemen	18	384	16	418
Miscellaneous	2	38	....	40
Total	42	600	38	680

There were 667 desertions in 1895.

Of the 680 in 1896, desertion occurred in the following ports:

Port.	Number.	Port.	Number.
Antwerp	12	Bahia	1
Baltimore	28	Buenos Ayres	70
Callao	3	Cardiff	4
Colon	1	Delagoa Bay	18
Durban	3	Geestemünde	1
Guayaquil	1	Havre	3
Hongkong	1	Iquique	10
La Plata	2	London	1
Mazatlan	1	Melbourne	2
Montevideo	3	Montreal	7
Newcastle, N. S. W	1	New Orleans	4
Newport News	5	New York	421
Norfolk	3	Paranagua	1
Philadelphia	8	Pisagua	1
Port Blakeley	1	Puerto Plata	3
Punta Arenas	7	Rio de Janeiro	2
Rio Grande do Sul	9	Rosario	8
Rotterdam	1	San José	1
Santo Domingo	1	Santos	17
Savannah	1	Singapore	2
Smyrna	1	Sydney	1
Trieste	1	Valparaiso	7
Vancouver	1		

In Hamburg, 325 seamen deserted after having been shipped. In the course of the year, 153 deserters appeared at the Seamen's Bureau 144 of whom were punished.

Abstract of desertions and shippings.

Year.	Desertions.		Shippings.			
	Abroad.	Per cent.	Shipped.	Paid off.	Total of crew.	Ships.
1873	665	4.34	15,338	11,541	26,879	2,039
1890	700	2.12	32,983	31,499	64,482	2,956
1891	764	2.07	36,989	34,634	71,623	3,146
1892	836	2.4	34,834	34,016	68,850	3,137
1893	1,093	3	36,368	33,676	70,044	3,028
1894	613	1.65	37,146	35,176	72,322	3,654
1895	667	1.75	38,193	35,546	73,739	3,779
1896	680	1.71	39 726	37,105	76,831	4,071

In the year 1869, 11,852 men were shipped; in 1896, 39,726; thus showing an increase in twenty-seven years of 27,874 men.

Seamen's wages in 1896, monthly.

Description.	Wages.	Description.	Wages.
On transatlantic passenger steamships:		Plumbers	$11.90
First officers	$37.87	Smiths	12.50
Second officers	26.96	Sailmakers	12.42
Third officers	22.29	Quartermasters	13.33
Fourth officers	18.83	Able seamen	11.96
On large freight steamships:		Ordinary seamen	7.62
First officers	31.75	Boys	3.31
Second officers	22.43	Head cooks	22.64
Third officers	17.80	Second cooks	16.66
On small freight steamships:		Third cooks	7.68
First officers	25.47	Pastry cooks	12.25
Second officers	18.15	Bakers	12.67
Single officers on steamships	24.28	Butchers	10.04
On sailing vessels:		Cooks' assistants	7.09
First officers	24.66	Head stewards	15.98
Second officers	17.34	Second stewards	8.25
Third officers	15.95	Understewards	5.43
Underofficers	14.88	Stewardesses	7.43
Single officers	20.85	Engineers:	
Storekeepers	26.29	In large trade	78.05
Pursers	36.65	In European trade	48.97
Pursers' assistants	14.28	In the Baltic	30.39
Surgeons	23.95	Fourth class (with patent)	22.07
Surgeons' assistants	7.48	Engineers' assistants	15.83
Carpenters	18.53	Firemen and donkey men	14.74
Coopers	15.05	Trimmers	11.15
Boatswains	16.91		

INSURANCE AGAINST ACCIDENTS.

In accordance with the law of July 13, 1887, 1,070 accidents on German ships have been reported, of which number 1,016 accidents happened on Hamburg ships. One hundred and twenty-five seamen met with accidents on sailing vessels and 945 on steamers. Of the 945 accidents on steamers, there were 451 to deck hands and 494 to engineers, etc.

Inquiries were made by the Seamen's Bureau in 260 cases of accidents, 817 protocols being registered and filed. Of these 260 inquiries, 219 accidents occurred on steamers and 41 on sailing vessels.

Of the 219 cases of accidents on steamers, 120 happened to those on deck and 99 to engine hands, viz:

Description.	Injury of the head.	Internal injury.	Injury of arm, hand, or finger.	Injury of foot or leg.	Rupture.	Injury of the ribs.	Injury of other parts of the body.	Sunstroke without fatal result.	Death.		Total.
									Suicide.	Accident.	
Deck hands.											
Captains	....	....	....	....	....	....	....	....	1	1	2
Mates	....	....	2	2	....	1	2	....	....	....	7
Carpenters	1	....	3	2	3	....	....	....	....	....	9
Boatswains	....	1	3	1	2	....	....	....	....	2	9
Cooks	....	....	2	2	2	....	1	1	....	3	11
Able seamen	3	2	8	8	10	....	9	....	....	3	43
Ordinary seamen	....	....	2	2	1	....	....	....	....	....	5
Boys	....	....	2	2	3	....	1	....	....	....	8
Stewards and stewardesses	....	....	4	3	1	....	3	1	4	5	21
Miscellaneous	....	....	1	1	1	....	2	....	....	....	5
Engine hands.											
Engineers	1	....	10	6	5	1	2	....	....	1	26
Assistants	....	....	1	1	1	....	1	....	....	1	5
Firemen	1	2	12	9	4	1	1	....	3	4	37
Trimmers	1	1	6	3	9	....	3	1	5	2	31
Total	7	6	56	42	42	3	25	3	13	22	219

There were 269 actions entered against 441 persons, 891 protocols being registered and filed and 235 written decisions rendered. Of the 269 cases, 225 were settled by the Seamen's Bureau and 44 were handed over to the law court. Seven cases were handed over to the police authorities for execution. Among the 269 actions, 251 were criminal matters regarding 391 men and 18 were private matters regarding 50 men. Of the 251 criminal cases, there were 232 cases regarding 364 men on Hamburg ships and 19 regarding 27 men on other German ships. Of the 18 private cases, there were 12 regarding 36 men on Hamburg ships and 6 regarding 14 men on other German ships.

Proposals for punishment for desertion of seamen in foreign countries numbered 703. These were handed in by the masters and forwarded to the attorney-general. Thus, 529 cases regarding 701 persons were settled and 1,708 protocols were registered and filed.

In the insurance of seamen against invalidity and age, the number of cases settled was: (1) Correspondence, 177; (2) proposals for granting invalid pensions, 7; (3) attests given at the paying off, 39; (4) receipt cards deposited, 9,700; returned, 1,165; on hand, 8,535; exchanged, 1,367; (5) informations, 240.

The Seamen's Bureau assigned to the sailor's poor fund: (1) Fines collected at the Seamen's Bureau, $2.532.66; (2) charitable donations, $130.36; total, $2,663.02.

Wages saved by seamen ($1,544) were remitted through different German consuls, free of charge, to the Seamen's Bureau for further disposal.

Inheritance money ($5,628) was delivered to the respective heirs and authorities. Two hundred and sixty-five packages of effects of deceased and shipwrecked seamen were sent off.

In the seamen's hospital, 22 shipwrecked and destitute seamen were admitted and treated for some time, at an expense of $23.62, against 54 cases and an expense of $51.30 in 1895.

W. HENRY ROBERTSON,
HAMBURG, *March 18, 1897.* *Consul.*

SWISS POSTAL TELEGRAPHS.

The Swiss federal Administration des Télégraphes comprises two branches, viz, (1) the telegraphic service, and (2) the telephonic service. The inclosed figures will show the average revenue derived by the Government from this department.

The total length of telegraph lines and wires in Switzerland in December, 1896 (with the exception of the telephone lines and sublines and strong-current lines), was as follows:

Lines.	Length of lines.		Length of wires.	
	Kilometers.	*Miles.*	*Kilometers.*	*Miles.*
State railway lines	7,142.8	4,438.5	20,303.3	12,616.5
Railway lines	943.3	586.7	10,479.1	6,511.7
Private lines	761.1	472.8	1,389.1	863.1
Total	8,847.2	5,498	32,171.5	19,991.3

In December, 1896, there were in use the following telegraphic apparatus: Morse, 1,825; Hughes, 52; Baudot, 1; Relais, 245; total, 2,123.

The number of offices (telegraph stations) existing in all Switzerland in December, 1896, was as follows: State and private stations (open all the year round), 1,710; summer stations, 80; railroad offices, 76; depots (for receiving telegrams), 70; total, 1,936.

The total number of telegrams, both inland and foreign, sent during 1896, together with the number of foreign telegrams received and those forwarded in transit, amounted to 3,709,758. Number of inland messages sent, 1,741,018; foreign messages sent, 717,962; foreign messages received, 723,594; messages in transit (forwarded), 527,184.

The total number of all telegrams sent out of, coming into, or passing in transit through Switzerland during 1896, together with the number of inland telegrams sent and received, amounted in all to 13,394,633. This gives, therefore, an idea of the aggregate amount of work that is accomplished by the 1,866 telegraph bureaus all over the country. The working and regulations of the telegraph service in their present form were established by the federal law of July 30, 1886.

The total number of persons employed by the telegraph administration (including all employees, messengers, etc.) is 3,026, of whom 985 are women.

The uniform charge for all inland telegrams in Switzerland is 30 centimes tax, plus 2½ centimes per word of message.

I append herewith a table giving the charges and rates per word for telegrams to foreign countries. A fixed tax of 50 centimes per telegram is charged for abroad, plus the following rates per word:

To—	Rate per word.	
	Francs.	
European countries:		
Germany	0.10	$0.0193
Austrian Tyrol	.07	.0135
Austria-Hungary	.10	.0193
England	.29	.0559
Belgium	.19	.0366
Bosnia and Herzegovina	.19	.0366
Bulgaria	.22	.0424
Denmark	.19	.0366
Spain	.22	.0424
France	.10	.0193
Gibraltar	.27	.0521
Greece—		
Continent	.48	.0926
Isles	.52	.1003
Heligoland	.22	.0424
Holland	.19	.0366
Italy—		
Frontier	.10	.0193
Other	.17	.0328
Luxemburg	.19	.0366
Malta	.34	.0656
Montenegro	.19	.0366
Norway	.31	.0598
Portugal	.27	.0521
Roumania	.19	.0366
Russia	.44	.0849
Sweden	.22	.0424
Servia	.19	.4366
Turkey (Europe and Asia)	.48	.0926
Asiatic countries:		
China (Hongkong, Amoy, Shanghai)	8.50	1.64
Cochin China (Saigon)	6.35	1.22
India	10.75	2.07
Japan	9.35	1.80
Java	4.45	.86
Asiatic countries—Continued.	*Francs.*	
Molucca	6.95	$1.34
Penang	6.20	1.20
Persia	1.60	.31
Russia in Asia	2.95	.57
Singapore	7.20	1.39
Africa:		
Algeria and Tunis	.20	.04
Cape Colony	10.40	2.00
Durban	10.40	2.00
Egypt	2.65	.51
Mozambique	10.45	2.05
Zanzibar	9.15	1.77
United States and Canada:		
Boston, Charleston, Chicago, Galveston, Mobile, Montreal, New Orleans, New York, Philadelphia, St. Louis, Washington	1.50	.29
San Francisco	2.15	.41
South America:		
Buenos Ayres and Montevideo	7.65	1.48
Lima	7.95	1.53
Pernambuco	7.45	1.44
Rio de Janeiro	8.45	1.63
Valparaiso—		
Via Lisbon	11.00	2.12
Via Galveston	11.35	2.19
Central America:		
Colon (Aspinwall), Panama (via Galveston)	5.50	1.06
Guadeloupe	13.40	2.59
Jamaica	7.60	1.47
Habana (via Jamaica)	3.40	.66
Puerto Rico	11.50	2.22

Receipts and expenditures.

Description.	1894.	1895.	1896.
Receipts:			
Telephone	$600,997	$636,199	$836,373
Telegraph	560,738	539,836	543,912
Total	1,161,735	1,176,035	1,380,285
Expenditures:			
Telephone	542,213	567,207	839,257
Telegraph	505,638	514,910	501,352
Total	1,047,851	1,082,117	1,340,609
Balance	113,884	93,918	39,676

These figures, however, do not include the comte de construction, or account for plant and building expenses, to which account are entered various amounts of money voted by the federal council for the purpose of establishing new telegraphic lines and centers, constructing new stations, etc. This account, which in December, 1896, showed a debit balance of over 7,000,000 francs, is paid off at the rate of 15 per cent per annum, although, this being found insufficient to meet it and the account increasing, it is now proposed to devote yearly the whole of the revenue derived from the service toward paying it off.

BENJ. H. RIDGELY,
Consul.

GENEVA, *April 10, 1897.*

SAMPLES EXHIBITION OF STUTTGART.

Under date of May 22, 1896, I made a report on the Stuttgart Export Musterlager.* Referring to this article, I would add that I have just received a report of the institution for the year 1896, from which, by permission of the director, I extract the following:

> For the past business year, we have again to report an increased number of buyers.
>
> The result of our business has, on the whole, been very satisfactory. The foreign buyers visiting the Musterlager showed decidedly more inclination to purchase and gave larger orders than in previous years. The number of orders received by mail was also larger, so that the number of orders, as well as the volume of our business, increased.
>
> Our efforts to call attention to our institution increase our expenses from year to year, but they lead to a steady increase of customers.
>
> Our most active support, in our efforts to procure a market for German manufactures in foreign countries, is the German press, both at home and abroad. For this powerful assistance we are greatly indebted. By constant endeavor to complete our exposition, by gaining new exhibits, and by continually supplementing and renewing our collection of samples we are at all times enabled to show our

---

* Published in CONSULAR REPORTS No. 190 (July, 1896), p. 515.

visitors a full line of goods and one containing as many novelties as possible. The following large number of articles ordered through our institution may give a fair view of the extent of our exposition, although many articles exhibited are not mentioned.

The number of buyers was 343, 333, and 371 for 1894, 1895, and 1896, respectively. Orders were given as follows:

Description.	1894.	1895.	1896.
In the Musterlager	1,599	1,675	1,740
Through agents	86	49	34
Through the Hamburg agency	439	564	659
Total	2,124	2,288	2,433

The 2,433 orders from visitors and correspondents were divided among 463 manufacturers in Würtemberg and some outside of Würtemberg.

Visitors and orders during last year came from the following places in Europe, outside of Germany: Vienna, Prague, Gablonz, Budapest, Zurich, Lucerne, Berne, St. Gall, Chaux-de-Fonds, Lugano, Amsterdam, Rotterdam, London, Liverpool, Birmingham, Nottingham, Manchester, Bristol, Worcester, Wordsley, Bradford, Derby, Glasgow, Paris, Nancy, Rouen, Lille, Valenciennes, Bordeaux, Brussels, Antwerp, Ghent, Milan, Genoa, Florence, Naples, Palermo, Catania, Barcelona, Saragossa, Granada, Seville, Lisbon, Copenhagen, Wiborg, Bergen, St. Petersburg, Moscow, Warsaw, Kiev, Odessa, Charkov, Bucharest, Craiova, Jassy, Piatra, Constantinople, Athens, and Salonica.

From other than European countries, visitors, buyers, and written orders came from New York, Chicago, St. Louis, Milwaukee, Philadelphia, Montreal, Quebec, Chihuahua, Coban, Belize, San Pedro Sula, San José de Costa Rica, Maracaibo, Caracas, Rio de Janeiro, São Paulo, Blumenau, Porto Allegre, Curitiba, Para, Montevideo, Buenos Ayres, Rosario, Valparaiso, Concepcion, Bogotá, Jerusalem, Jaffa, Sivas, Aleppo, Beirut, Tauris, Bombay, Madras, Allahabad, Secumderbad, Colombo, Bangkok, Hongkong, Shanghai, Yokohama, Batavia, Manila, Cairo, Tangier, Mogador, Pretoria, Darling, East London, Tamatave, Brisbane, Sydney, Melbourne, Bendigo, and Auckland.

The following articles were principally bought and ordered: Chemical and pharmaceutical preparations, bandaging material, medical vines, sparkling and still wines, beer, carbolineum, varnishes, preventative of rust, corks, conserving salts, chocolate, cacao, bonbons, conserves, chicory, cigars, cigarettes, gelatin, sugar, hops, sauerkraut, ham, sausages; colors for printing, lithographing, and painting; majolica, china, earthen and glass ware; sandstones; knives, shears, and files; machine needles, washing and wringing machines, all kinds of household machines, sewing machines, watchmakers' tools, articles for barbers, utensils for wine cellars; smooth and pressed leather for bookbinders, saddlers, shoemakers, and manufacturers of furniture; bookbinder's linen, calicoes, trunks, articles of celluloid and papier-maché, linoleum, shoes, gloves, india-rubber goods; iron, tin, copper, aluminium, wire, metal, nickel, and silver-plated ware; enameled tinware, pressed and galvanized plastic metal ware, metal capsules, metal wreaths, surgical and professional instruments, physical and scientific instruments and apparatus, electric articles, aneroid barometers, thermometers, optical and orthopedical instruments; iron furniture, safes, and boxes; jewelry, silverware, thimbles, watch chains, alarm and other clocks, watches, watchmen's time detectors, watch and clock springs, gold and silver wire, gold braids, household goods, ivory and bone ware, combs, brushes, whips, whistles, walking sticks, billiard tables and balls, furniture, wooden screens, wood carvings, paintings, saddle frames, baskets, mirrors, lamps, toys, twine, thread, sewing silk, worsted and embroidery wool; wool, cotton, and silk bedspreads; saddle cloths, shoe strings, linen and cotton tablecloths and napkins, ribbons and trimming articles, cravats, tricot ware, corsets; felt, linen, cotton, and woolen ware; shirts and stockings, shawls, straw and felt hats, umbrellas and sunshades, pianos, harmonicas, accordions, musical boxes and musical instruments of all kinds; printing and tissue paper, pasteboard boxes, envelopes, chinese lanterns, gelatin lampions, jewelry cases, New Years and Christmas cards.

Up to the present time, 9,525 catalogues in different languages have been distributed. Last year, 9,164 letters were received (in 1895, 9,089) and 13,924 (in 1895, 13,238) were mailed.

Sales through our agents in foreign countries have not reached a large amount. Our representative in Greece alone, notwithstanding the disturbed state of affairs in that country, has been successful.

The commercial policy of most countries, by establishing high tariffs, has been detrimental to German industry. We have also had to contend with steadily increasing home production, and our trade has been further interfered with not only by political revolutions, but by the unstable monetary system of many countries. We shall, however, not be discouraged and hope not only to retain our old customers, but, through untiring effort, to extend our trade into new territories.

From the above it will be seen that the Stuttgart Export Musterlager has another year of progress and success to report, and we may be assured that this and similar institutions throughout the Empire are leaving no stone unturned to extend German trade and offer competition to other countries in all lines of manufacture.

ALFRED C. JOHNSON,
Consul.

STUTTGART, *May 20, 1897.*

NEW CHANNEL FOR GERMAN EMIGRATION.

In my last report on "German emigration," published in CONSULAR REPORTS No. 182 (November, 1895), p. 296, I remarked that, so far, the German Government had not been successful in its endeavors to turn even a small portion of the current of emigration into the direction of Germany's African colonies and thus preserve to the mother country her surplus population. And it is this very fact which has now induced the German Government to lay a bill before the Reichstag which proposes to turn the emigration into certain channels; nay, it is even frankly stated in the motives underlying the bill that it has been framed to keep German emigration away from the United States and to direct it toward certain parts of South America. This applies, above all, to emigrating agriculturists, for whom the conditions for settling are said to be particularly favorable in the southern parts of Brazil—Rio Grande do Sul, Santa Catharina, and Parana.

The statistical basis upon which the bill in question rests shows the following figures relative to German emigration from 1871 to 1896:

Emigration to—	1871 to 1878.	1879 to 1887.	1888 to 1896.
United States	439,292	1,160,310	680,555
British America	1,035	3,566	12,507
Brazil	17,431	14,883	16,904
Other parts of America	4,287	9,589	11,997
Africa	1,228	2,488	5,877
Asia	214	642	1,449
Australia	9,496	6,806	3,194
Total	472,983	1,198,284	732,483

This goes to show that out of 2,403,750 Germans who left their native soil during the time from 1871 to 1896, about 96 per cent selected the United States for their permanent abode. Not until the year 1892 did German emigration to the United States, which last year only numbered about 28,000 persons, considerably decline.

Introducing the new bill in question, the Government's representatives went on to say:

> North America is not fitted for a rational German emigration, for there the peculiarities, language, and customs of the Germans—in other words, "Germanism"—is lost by way of assimilation. There, the relations of the emigrant with the mother country are dissolved; there, he promotes competition with agriculture and industry of his own native country. Not so in South America, particularly in South Brazil. There, German nationality is preserved; there, the conditions for a prosperous existence of German settlers from climatic, agricultural, and other points of view are given; there, the emigrant becomes a consumer of German products of industry, and, in this way, an intermediary of commercial and political relations between his new home and his mother country.

So the Government, with these tendencies, is in accord with the revocation of Heydt's rescript of November 3, 1859, which forbade shippers admitted in Prussia to carry emigrants to the Brazils. Now that this law is no longer in force, as far as the aforesaid southern provinces of Brazil are concerned, an increase of German emigration to that country may be expected. Of the other South American states, the Argentine Republic commands foremost attention for German emigration. That Republic has greater attraction than formerly, in consequence of the improved condition of her economic position, noticeable these last few years.

Asia and Australia absorb but a small fraction of German emigration. On the other hand, emigration to Africa shows a constant increase; it amounted last year to 1,346 persons, or 4.2 per cent of the whole German emigration. The majority of these people went to the Transvaal and Cape Colony.

The tendencies of the German Government, shown in the bill, e supported by the efforts of the Hamburg Society for Colonizing

Southern Brazil. This association, which has conducted the settling of Germans in the State of Santa Catharina since the beginning of the fifth decade of this century, has acquired there a territory of about 650,000 hectares (1,606,150 acres) for the purpose of colonization. It has, further, obtained the concession for the construction of a railroad from the coast, at San Francisco Bay, to the capital, Desterro. The society sells its land to colonists at 20 marks ($4.76) per hectare (2.471 acres). Manioca, tea, and corn are said to be the staple products of the country, which (according to the Government's report) is also fit for the cultivation of oranges and lemons.

That this society does not believe in a new German exodus to its territory, such as that to the United States, can be gathered from the statement that it counts upon reaching the number of 6,000 settlers at the end of eleven years.

But German emigration generally will probably not again assume such dimensions as during the eighties, for commerce and industry have so improved in Germany that the number of the Empire's surplus population grows smaller every year.

Most of the other European nations have a much larger number of emigrants, in proportion to their population, than Germany. The general supposition that the Germans are among the most migratory of all nations has scarcely any foundation nowadays, as is demonstrated by the following figures, taken from official statistics:

European emigration (including Germany) from 1881 to 1895.

Countries.	1881-1885.	1886-1890.	1891-1895.
Germany	875,300	485,200	402,600
Austria-Hungary	175,600	268,500	272,500
Switzerland	50,500	34,200	24,400
Italy	320,200	671,800	751,200
France	25,500	93,800	27,000
Great Britain	1,292,300	1,266,300	978,600
Netherlands	25,000	34,400	17,500
Belgium	(?)	25,100	14,100
Denmark	36,700	43.000	37,700
Sweden	148,700	179,900	139,500
Norway	105,800	81,000	61,100
Spain	122,600	255,300	177,000
Portugal	82,900	102,600	137,800

As to the emigration from Russia, I am without the necessary statistical material for anything like reliable figures.

While writing the foregoing, the news came in that the Reichstag had passed the new emigration law. In my opinion, it will have no bearing on German emigration to the United States, so far as the desirable part of this emigration is concerned.

LOUIS STERN,
Commercial Agent.

BAMBERG, *May 20, 1897.*

BEET-SUGAR FACTORY SITES.

The growing of sugar beets necessitates the establishment of sugar factories, and as the success of such factories and the safety of the capital invested therein depends upon the selection of the proper site, it will not be amiss to call attention to a few points essential to success.

Factories should be erected only in localities where it has been demonstrated beyond doubt that sugar beets can be grown successfully. Experience has shown that the sugar beet grows in almost any soil, provided the proper fertilizer is applied, yet it would be a mistake to attempt to raise beets on poor lands. A rich, deep soil, with a porous, well-drained subsoil, should be selected. If the climatic conditions are such that the beets are assured of abundant moisture, rain, or irrigation for the first three months, then a limited amount of moisture and dry sunny weather for the last thirty days, such lands are well adapted for the culture of the beet. It is of great importance that the last thirty days be dry and sunny; wet weather at this period will start a second growth in the beets at the expense of the saccharine contents. Farmers should experiment to ascertain beyond doubt that they have lands suitable for beets. It is not necessary to plant large areas; small patches here and there will answer for experimental purposes, and in this way a large district can be covered without obtaining an accumulation of beets. During the experiments the harvested beets can be used to feed live stock.

The needed capital being secured, either on the cooperative plan, by subscription from the farmers, or from outside capitalists, if the farmers are willing to bind themselves to plant the area necessary to feed a factory, the selection of a site for the factory needs careful attention. The factory must be easily accessible to the farmers, and should, therefore, be situated in the heart of the district from which it draws its beets. All materials needed in the manufacture should either be close at hand or easily procurable; the manufactured product should find ready takers or consumers in the surrounding country, or should be within easy reach of a market; and last, but not least, the main residuals of the factory—the cossetts (beet chips) and molasses—should be readily disposed of in the neighborhood. The factory should, therefor, be situated on a railway, or at least where it can be easily connected by a side track.

Besides beets, the principal materials needed to run a sugar factory are water, fuel, and limestone. There must be a bountiful supply of water to wash the beets, feed the boilers, and for general use. Coal or oil for fuel and limestone used in the purification of the beet juices must be close at hand or easily and cheaply procurable by rail or water.

The cossetts, from which the sugar has been extracted, can only be used for feeding purposes and make excellent fodder for live stock. They are delivered or sold here to the stockholders of the factory or to neighboring farmers. It is therefore advisable to combine the fattening of cattle with the manufacture of beet sugar. The cossetts should either be used by the surrounding farmers or the factory should erect its own cattle sheds and buy and fatten cattle. This, again, makes it advisable that the factory be located not too far from a central market where the cattle can be profitably disposed of.

The molasses of beet-sugar factories is principally used here for three purposes. About three-sixths goes to the molasses refineries, where it is worked into a lower grade of sugar—"ground melis," so called; about two-sixths is used for feeding live stock; and about one-sixth for manufacturing spirits. Formerly, large quantities were exported to France to be used there in the manufacture of spirits, but this was stopped by an increased French tariff on molasses. The result of this tariff was a more extended development of the molasses refineries in Germany and the preparation of molasses for feeding purposes, so that now, molasses, which for some time had become a drug in the markets, is again taken care of. It is, of course, inadvisable to start molasses refineries in our country before there is a sufficient number of beet-sugar factories established to feed them. Neither do I think that it would pay at present to erect distilleries to manufacture spirits from molasses. I do think, however, that beet-sugar factories should be built with a view to refine their own molasses, and that, at the present state of the industry, it could be done at a profit.

For years experiments in feeding molasses to cattle have been made here, but the results have not been altogether satisfactory on account of the purging effect of the molasses, caused by the salts contained therein. Lately, molasses mixed with the cossetts and then dried has given satisfaction; but the best results are obtained by a mixture of molasses and peat dust (torfmull). The acid of the peat dust apparently neutralizes the salts in the molasses, thus depriving the latter of its purging effects and rendering it a wholesome, fat-producing fodder. This would again point to the fact that beet-sugar manufacturing and cattle fattening should go hand in hand, and when the erection of a factory is contemplated, all these matters should be well considered.

In Germany, beet-sugar factories principally manufacture raw sugar to be sold to the refineries. From the nature of the sugar industry in our country, the beet-sugar factories will probably find it more advantageous to manufacture granulated sugar and sell it for direct consumption. Under these circumstances, a factory should figure on supplying, first, the surrounding markets, but it should also have ready and cheap means of transportation to reach more distant markets, if forced thereto by increased production and resulting competition.

JULIUS MUTH,
Consul.

MAGDEBURG, *June 3, 1897.*

DAMASCUS GUN BARRELS.

The trade in the renowned damascus gun barrels ("canon de luxe"), of which the valley of the Vesdre, Belgium, enjoys the exclusive monopoly of production, has for some years suffered severely from several causes, principally from the placing on the market of steel barrels in imitation of damascus. The difference between the genuine and false damascus is that the real handmade barrels are composed of iron and steel manipulated by the most expert artisans, who are specialists in this art, whereas the imitation barrels are made of iron or steel, and by an ingenious process of transferring the design of damascus from paper to the barrel are made to appear in finish equal to the real.

The workers of true damascus barrels are paid 3.50 to 4 francs (67½ to 77 cents) a day (piecework); those engaged on false barrels, principally women and children, receive from 1 to 1.50 francs (19.3 to 29 cents) per day. The paper design transferred to the barrel costs about 12 cents.

The imitation of damascus barrels is largely done in Liege by the most important gun makers, and it is calculated to deceive the inexperienced purchaser. It is estimated that 90 per cent of the guns produced in Liege for exportation to the United States have false damascus barrels. The manufacturers of genuine damascus barrels, realizing the situation occasioned by the large output of this artificial work, which has caused a great decrease in the demand for their product, have petitioned the Belgian Government for the enactment of a law regulating the sale of false barrels in Belgium. They demand that all imitations of damascus shall be conspicuously marked "faux damas" or "imitation de demas," which, at sight, will distinguish the real from the false. Up to the present time, however, the Government has not granted the demand of the damascus makers.

A commission of Liege arms manufacturers was appointed by the Belgian Government to inquire into the extent of the imitation of damascus barrels in foreign arms centers. The report of the commissioners shows that the making of false damascus barrels for exportation to the United States exists only in the province of Liege, Belgium. The life of steel barrels damascened, which are all officially tested, is as great as the real damascus, and will probably resist as many shocks. The advantage, however, of the handmade damascus barrel over the steel is that, in case of explosion, the charge escapes through some of the many welds and the barrel does not fly into pieces, as is the case usually when steel barrels burst, frequently causing serious injury to the person.

It would seem that if the sportsman purchases an imitation damascus gun from the retail gun dealer at much less than the price demanded for a polished steel arm, he obtains a safe weapon, with an artistic appearance, at a small price, instead of the large outlay required for a real damascus.

The prices of gun barrels in the rough at the factories of Liege are, per pair:

Description.	Prices.	
	Francs.	
Steel	3.00	$0.579
Imitation twist	3.50	.656
Imitation Boston	4.00	.772
Imitation Crollé	4.50	.878
Real twist	6.00	1.158
Real Chainette	13.00	2.51
Real London	7.25	1.40
Real Oxford:		
3 strips	15.00	2.895
4 strips	19.00	3.662
Real Boston:		
2 strips	10.00	1.93
3 strips	11.00	2.123
Extra	14.00	2.702
Real Crollé, 4 strips	25.00	4.825
Real Damasture:		
4 strips	22.50	4.312
6 strips	27.00	5.211
Real Washington:		
2 strips	11.00	2.123
3 strips	13.00	2.509
Real Etoilé:		
2 strips	11.00	2.123
3 strips	13.00	2.509

HENRY W. GILBERT,

LIEGE, *May 6, 1897.*

Consul.

PRICES OF THE PRINCIPAL ARTICLES IN RUSSIA.

To show the movement of prices of the principal articles in Russia in the month of March, as compared with January and February, of this year, I will cite them as they appeared in the Messenger of Finance. The report shows a decrease in the prices in March of 0.95 per cent as compared with the prices in February and 0.9 per cent in January, but exceed the average price of the second half of the year 1896 by 1.1 per cent. Out of the twenty-six different articles, cited further on, only six advanced in prices, namely, oats, linseed, raw naphtha, raw sugar, cattle, and iron; nine—linseed oil, wood, hemp, silk, naphtha residue, refined sugar, spirits, tallow, and cast iron—remained the same as during the preceding month. The remaining eleven—cereals (except oats) rape, flax, cotton, tea, coffee, pit coal, and copper—decreased.

The following table shows the average prices during the second half of the year 1896, in comparison with the prices during the months under consideration, in percentage, by taking for basis 100 as the half year's average price.

Articles.	Half year's average price.	January.	February.	March.
		Per cent.	*Per cent.*	*Per cent.*
Wheat	100	110.3	106.8	106.1
Rye	100	118.5	114.7	107.3
Oats	100	105.7	102.6	105.7
Wheat flour	100	108.1	106	100.5
Linseed	100	101.8	101.8	102.3
Rape seed	100	114.3	112.5	95.9
Flax oil	100	99	99	99
Flax	100	97.9	96.4	95
Hemp	100	98.3	98.3	98.3
Cotton	100	91.1	101.5	95.9
Wool	100	99.5	99.5	99.5
Silk	100	98.3	98.3	98.3
Kerosene	100	103.4	101.8	99.3
Raw naphtha	100	94	89.5	94
Naphtha residues	100	106.3	110.4	110.4
Refined sugar	100	98.4	96.9	96.9
Raw sugar	100	100.7	100.9	103.3
Tea	100	99.5	99.5	99.2
Coffee	100	94	98.1	96.7
Spirits	100	99.8	99.8	99.8
Cattle	100	107.3	112.6	122.1
Tallow	100	102.9	102.9	102.9
Pit coal	100	98.4	98.4	94.7
Iron	100	100	100	103.2
Cast iron	100	99.3	99.3	99.3
Copper	100	105.9	106.8	104.5
Total average	100	102	102.05	101.1

By grouping the goods into categories, a decline in prices, as compared with January and February, is observed in cereals and oilseeds of 3.4 per cent, and in spinning goods of 1.1 per cent; the three remaining groups show an advance—in naphtha products, of 0.6 per cent; in breadstuffs, 1.5 per cent; and in metals and pit coal, 1.6 per cent. Compared with the half year's price, a decline is observed only in spinning materials. The prices for cereals and oilseeds in March show the greatest change.

The prices of the five principal categories of goods, in percentage, were:

Categories.	Half year's average price.	January.	February.	March.
		Per cent.	*Per cent.*	*Per cent.*
Cereals and oilseeds	100	108.15	105.83	102.4
Spinning materials	100	97.02	98.5	97.4
Naphtha products	100	101.25	100.6	101.2
Food stuffs	100	100.37	101.54	103
Metals and pit coal	100	100.8	101.11	102.7

The international grain market continues dull. Small demands in the countries of consumption, low figures of export, and a weak and indefinite state of the principal exchanges of the countries of production are the principal characteristics of the state of the international grain market during the period under consideration. Owing to such conditions, the prices naturally declined. The Russian markets did not escape the general depression, and everywhere, with few exceptions, the prices of grain and flour declined. The interior markets were very quiet. The demands upon flour mills were small; many mills shut down, the millers buying grain very carefully and in small quantities. In the southern ports, during the month of March, trade was very quiet, the prices gradually falling. The Baltic ports were in the same weak condition; sales were slow and prices weak. The price of wheat has advanced in the interior markets, compared with the half year's average price, 1.5 per cent; but at the southern ports, the prices have fallen 4.2 per cent, not only in comparison with the prices of January and February, but also as compared with the average price for the half year.

Markets.	Half year's average price.	January.	February.	March.
		Per cent.	*Per cent.*	*Per cent.*
Interior markets	100	111.85	108.13	101.5
Southern ports	100	112.75	103.1	95.8

The decline in rye prices is also more visible at the ports; in the south, they are behind the average half year prices 8.2 per cent, and in the north, 10.5 per cent:

Places.	Halfyear's average price.	January.	February.	March.
		Per cent.	*Per cent.*	*Per cent.*
Northern ports	100	93.22	92.85	89.5
Interior markets	100	107.22	104	102.1
Southern ports	100	99.79	96.5	91.8

The conditions governing oats, as compared with the other cereals, were more favorable. This grain was bought up rather fast in winter, and the decline in price was not so abrupt as for wheat and rye, viz:

Places.	Halfyear's average price.	January.	February.	March.
		Per cent.	*Per cent.*	*Per cent.*
Northern ports	100	97.2	98.8	97.6
Interior markets	100	112.4	111.2	108.9
Southern ports	100	104.8	105.7	105.5

The sale of oilseeds was very slow in March, notwithstanding a considerable decrease in the quantities offered by the sellers. In Odessa, this was specially the case with rape seed, the price of which declined 16.6 per cent as compared with the February prices and 4.1 per cent compared with the average half year's price.

Of the spinning materials, the prices changed only in flax and cotton, both of which declined; for the others, the prices remained the same as in February. The increased foreign demand for flax had no great influence upon the Russian markets; the prices rose especially in the middling "slantsy" and the higher marks of "mochentsy" of guarantied quality. Cotton, wool, and silk were quiet. Under the influence of foreign markets, the price of kerosene declined, but those of raw naphtha advanced. The prices of naphtha residues did not change.

An animation in sugar was observed only in Kiev, where the prices of raw sugar advanced. At the other markets sugar became more enlivened only toward the end of March. In Warsaw, sugar was bought not only for local consumption, but also for export. In Moscow, there was a general decline of prices; in Odessa, the business was rather quiet, and sales were not made public. In St. Petersburg, notwithstanding the coming of the holidays, purchases were very small and the market rather slow.

The spirit trade is quiet in Russia, as well as abroad; the prices have remained stationary.

The prices for animals advanced considerably toward the end of March.

Tea and coffee prices have declined.

The condition of the international iron market was favorable at the beginning of March, but toward the end it became quieter. The Russian market was in general firm, but made no large sales. The prices of iron have advanced, save cast iron, which remained unchanged. Copper prices declined, as compared with the two preceding months.

On account of the mild winter, large quantities of pit coal remained unsold, and the prices declined.

JOHN KAREL,
Consul-General.

ST. PETERSBURG, *May 19, 1897.*

LAW OF LIMITATION IN THE UNITED KINGDOM.

This consulate is so frequently in receipt of letters from citizens of the United States or their legal representatives, wanting information of estates in Ireland alleged to have belonged to their parents, grandparents, great-grandparents, or some collateral ancestral branch, that it would be of considerable importance to all such if abstracts of the law of limitation were disseminated through the CONSULAR REPORTS.

There is also other information frequently called for bearing upon real and chattel real freehold, which the consular officer very often, for obvious reasons, is unable to supply, and is compelled to refer the inquirer to a solicitor residing at or near the place where the property is alleged to be located, which means additional expense and delay; whereas if the interested party or his lawyer at home has the information at hand little or no expense need be incurred and vexatious delays would be minimized.

To that end, there is herewith appended a synopsis of such sections of the imperial act as govern freehold passing to the heir of a person dying intestate, leaseholds passing to the next of kin, equitable estates in land, remainders, reversions, etc. There are also sections appended governing personal property, such as money, goods, contracts, etc.

REAL AND CHATTEL REAL PROPERTY.

No person shall make any entry or distress or bring an action to recover any land or rent but within twenty years next after the time the right shall have first accrued to some person through whom he claims, or within twenty years next after the time at which the right to bring such action shall have first accrued to the person bringing the same.

(16) Persons under disability of infancy, lunacy, coverture, or beyond seas or their representatives to be allowed ten years from the termination of their disability or death; now shortened to six years and absence beyond seas no disability.

(17) But no action shall be brought beyond forty years after right of action accrued.

(25) In cases of express trust, the right shall not be deemed to have accrued until a conveyance to a purchaser, *i. e.*, a purchaser for value from an express trustee has the benefit of the statute after twenty years, etc.

(26) In case of concealed fraud, the right in equity shall be deemed to have accrued at and not before the time at which such fraud shall or might with reasonable diligence have been first known or discovered.

(28) Mortgagor is barred at the end of twenty years from the time the mortgagee took possession or from the date of the last written acknowledgment of the mortgagor's title.

(40) No action shall be brought to recover any sum of money secured by mortgage, judgment, or lien or otherwise charged upon or payable out of any land or rent at law or in equity or in any legacy but within twenty years after the right shall have accrued to the person capable of giving a discharge for the same, unless some part of the principal or some interest shall have been paid or acknowledgment in writing given.

(42) No arrears of rent or interest upon money charged upon or payable out of land or rent or in respect of any legacy shall be recovered but within six years after the same shall have become due; but by 19 and 20 Vic., chapter 97, section 10, in the case of claims within sections 40 and 42, above, absence beyond seas is not a disability.

Mortgagor may bring action within twenty years from last payment of any principal or of any interest.—*7 Wm. IV and 1 Vic., chap. 28.*

The statute 3 and 4 William IV, chapter 27, section 40, is extended to the case of claims to the estate of persons dying intestate.—*23 and 24 Vic., chap. 38, sec. 13.*

The period above mentioned is shortened to twelve years except in the case of claims to the estate of persons dying intestate, to which the act does not extend; therefore, for such claims, the period is still twenty years. The period allowed for disability is shortened to six years.—*37 and 38 Vic., chap. 57, sec. 8.*

No claim of a cestui que trust against his trustee for any property held on an express trust or in respect of a breach of such trust shall be barred by any statute.—*Judicature act.*

On a total failure of heirs, real property passes to the Crown.

PERSONAL PROPERTY.

All actions grounded upon any lending or contract, upon any award, or money levied by fieri facias, or of account other than accounts concerning the trade, or not accounting of merchandise; actions for direct injuries to real or personal property, goods and chattels; libel, malicious prosecution and arrest, seductions, crim. con., and all actions on the case shall be commenced and sued within six years after the cause of such action, except on assault, menace, battery, wounding, or imprisonment, which shall be commenced within four years.

In actions of contract, time runs from the breach, not from the making, of the contract; in actions of accounting between principal and agent, time runs from the demand made. The statute runs from the time the action might have been brought.

Part payment within six years takes the case out of the statute; payment of interest within six years has the like effect.

The act applies to the case of any debt alleged by way of set-off.—*16 and 17 Vic., chap. 113, sec. 20.*

MERCANTILE LAW AMENDMENT ACT.

(9) All actions of account and suits concerning trade of merchandise shall be commenced and sued within six years after the cause of such actions or suits shall have arisen.—*19 and 20 Vic., chap. 97.*

Information is wanted sometimes from this consulate as to the disposition of property where the owner of property dies intestate and without heirs. In such cases, it escheats to the Crown and action is barred under limitations governing private suits, as before set forth.

There is, however, this possible exception: That while the Crown is in possession of property unconverted, it may, and sometimes does, acknowledge a properly constituted claim, and would not plead the statute. The statutes do not extinguish the right of suit, but simply bar the remedy. However, once realty is converted, either by grant to another or turned into money, and personalty is "written off"—*i. e.*, unclaimed funds, etc., converted to Government uses—then there is no recourse. The "written-off" process occurs at periods never longer than sixty years from default of owner.

JAMES B. TANEY,
Consul.

BELFAST, *June 1, 1897.*

INDUSTRIES IN THE FREE PORT OF HAMBURG.

On the 9th of January, 1897, during my absence on leave, this office received the Department's instruction of December 28, 1896, calling for a report upon the character of manufactures carried on at the free port of Hamburg, with special statistics as to the capital and the number of laborers employed. Steps were immediately taken to procure the desired information, and, among other means of doing so, letters of inquiry were addressed to the ninety and odd manufacturers doing business within the limits of the free port proper. Some of these replied promptly, while most of them had to be served with a second request. Even then, about one-half failed to make any response whatever. In only one or two isolated cases of private firms were any figures given as to the capital employed. I do not think, however, that this should occasion surprise. In the cases of stock companies, these figures are given.

Below will be found a tabulated statement of all the statistical information regarding these manufactories that I have been able to obtain after weeks of the best endeavor.

Manufacturers and manufactures in the free port of Hamburg.

Name of firm.	Stock company or private firm.	Manufactures.	Working capital.	Area of factory.	Number of laborers employed.	Remarks.
Gasworks, Grasbrook		Gas		About 15 acres	378	Managed by the city.
Repair shops of the quay department		Repairs		About 5 acres		Do.
Deutsche Solway Werke, A.G	Stock company	Ammonia				
Fr. Feustell, Nchf	Private	Chemicals		1,585 square yards	27	Fairly important.
Reiherstieg Schiffswerft und Maschinen Fabrik, A. G.	Stock company	Ships and marine engines	$595,000	35,880 square yards	1,000	Second largest yard in Hamburg.
C. A. Propfe & Co	Private	Silicate of soda		8,800 square yards	10	Unimportant.
C. W. Stöber	do	Iron castings		3,350 square yards	35	Do.
Emil G. von Höreling	do	Ship paint		2,790 square yards	15	Do.
Abmeyer & Wittenberg	do	Lubricating oils		1,794 square yards	7	Do.
Nathan Philipp & Co	do	Storage		119,600 square yards	250	Large concern (storage of American whisky).
Deutsch Amerikan Petroleum Gesellschaft.	Stock company	Barrels and repairs	7,140,000	13 acres	500	Important.
A. Stirling	Private	Machinery and boilers		1,650 square yards	23	Unimportant.
Actien Reismühle	Stock company	Polished rice	261,800	8,670 square yards	90	Important.
C. W. Herwig	Private	Spirits		14,350 square yards	250	Do.
Ernst Schliemann	do	Mineral oils and candles			60	Do.
Gall & Seitz	do	Brass and copper works		1,315 square yards	60	Do.
Joh. Diedr. Bieber	do	Pharmaceutical preparations	120,000	8,000 square yards	20	Fairly important; exports to the United States.
Gelr. Stern	do	Vaseline oils		5,980 square yards	60	Important.
Gelr. Päglow	do	Machine shops	22,600	1,315 square yards	20	Unimportant.
W. Schlafhorst	do	Stauffer lubricant		1,120 square yards	10	Do.
Morgan & Co	do	Storage of wines and liquors and blending of same.		15,000 square yards	25	Considerable business with Great Britain and her colonies.
Hafen Dampfschiffahrt Gesellschaft, A. G.	Stock company	Ferry company and repair shops.	300,000		200	Ferry company subsidized by Hamburg government; connection between quays and opposite side of river.
Schulz & Wahlen	Private	Disinfecting establishment and malt factory.		480 square yards	6	Unimportant; disinfecting establishment licensed by this office.

J. H. N. Wiechhorst	do	Shipyard			380	Shipyard for small craft.
Hamburg-American Line	Stock company	Dry dock and repair shops	10,710,000			The largest steamship company in the world.
F. Götze	Private	Shipyard				Unimportant.
E. Hagen & Co.	do	Mineral oils				Do.
Englische Dampfcakes Fabrik	Stock company	Crackers and biscuits	80,000			Important.
Albrecht & Co.	Private	Mineral oils			400	Do.
Maschinenöl Import Actien Gesellschaft.	Stock company	Machine oils				Do.
H. I. Salomon	Private	Packing cases				Small concern.
Emil Güssefeldt	do	Manure salts				Very important.
Kupferhütte of Hamburg	Stock company	Copper works				Do.
Carl Hirschberg	Private	Oil factory				
I. Bernström	do	Zinc works				Small concern.
Rio Tinto Company	Stock company	Copper works	16,000,000		105	For experimenting only
W. Tiveke	Private	Machine grease				Small concern.
A. C. Schümann	do	Oil refinery				Do.
D. H. Hambrock	do	Sugar factory				Do.
J. H A. Brügmann	do	Oil paints				Do.
Dr. O. Follenius	do	Fruit sugar			15	Unimportant.
Franz Behrens	do	Sailmaker				Do.
Hansen & Studt	do	Coffee assorters			400	Important.
H. Glimmann	do	do	500,000	2,580 square yards	200	Do.
F. Leinan Söhne	do	do			2	Unimportant.
H. Pohly & Co.	do	do		5,980 square yards	150	Important.
Hamburger Freihafen Lagerhaus Gesellschaft.	Stock company	Storage and warehousing	2,142,000	51,000 square yards 7 to 8 story warehouses and 24,000 square yards of 1-story sheds.	280	Controlled by the Hamburg government, which is interested in its profits.
Schwarze & Wichmann	Private	Coffee assorters		1,000 square yards	560	Important.
C. Freesc & Co.	do	Spirits and perfumes			13	Unimportant.
Alexander & Magnus	do	Suspenders			16	Do.
Neben, Schulz & Co.	do	Coffee assorters				
Ockelmann & Cons.	do	do			75	Not very important.
Bohlen & Behn	do	do				
Schumacher & Co.	do	do				
R. R. Green & Soermann	do	Oil paints				
C. H. Donner	do	Coffee assorters				

Manufacturers and manufactures in the free port of Hamburg—Continued.

Name of firm.	Stock company or private firm.	Manufactures.	Working capital.	Area of factory.	Number of laborers employed.	Remarks.
Blohm & Voss	Stock company	Shipbuilders	1,200,000		3,437	Largest shipbuilding yard in Hamburg; important.
P. Mallieu	Private	Box maker		2,400 square yards	30	Fairly important.
Sociedad Vinicola	do	Spirits, wines, etc		9,600 square yards	190	Important (export to the United States).
J. C. H de Jong	do	Turnery			100	Fairly important.
Georg Memeyer	do	Copper works				
Ernst Breetzmann	do	Boiler works				
Export and Lagerhaus Gesellschaft	Stock company	Spirits, storage, etc	1,600,000		232	Very important.
Menk & Bartels	Private	Cast iron			23	Unimportant.
I. Bernhardi	do	Pharmaceutical preparations			8	
I. A. Harms	do	Cast iron		2,400 square yards	25	
Heinr. Branderburg	do	Shipbuilder		12,000 square yards	400	Medium-sized vessels only.
L. Kolberg	do	Zinc works		1,000 square yards	8	Unimportant.
B. Wencke Söhne	do	Shipbuilder		26,000 square yards	180	Chiefly for sailing vessels.
H. D. C. Schnoor	do	Coppersmith		1,200 square yards	25	Fairly important.
Th. Hoeg	do	Ship paint	125,000	2,300 square yards	25	
Norddeutsche Affinerie	Stock company	Ore refinery	410,000	21,000 square yards	200	Important (gold and silver).
Mohr & Co	Limited company.	Margarin		2,600 square yards	35	Important.
Hugo Peters & Co	Private	Spirits and wines	48,000	4,400 square yards	50	Do.
H. C. Stülcken & Sohn	do	Shipyard			150	Important.
M. A. Flint	do	do				
C. G. Jensen	do	Machinery				
Jürgen Peters	do	Spirits				
Anglo-Continental Guano Works	Stock company	Guano, etc	3,808,000		217	Very large concern.
Schiffswerfte and Maschinenfabrik, Normals Janssen und Schuilinsky.	do	Shipbuilders	70,000		540	Important.
Government carpenter shops		Repairs				Owned by Hamburg government.
Government machine repair shops		do				Do.
I. Rabba	Private	Iron castings		2,100 square yards	15	
C. P. E. Höppner	do	Shipbuilder			20	

Joh. Rathjen	do	Paints	30,000		11	Unimportant.
Heinr. Hopfgarten	do	Iron foundry			7	
Th. Kruse	do	Corks			13	
P. H. Oeser	do	Shipbuilder			31	
Gebr. Fährmann	do	do				
W. E. Wiswe	do	do				

The foregoing industries are situated strictly within the limits of the free port, as defined by the local and imperial authorities in 1888. The most important of these, it will be noticed, have to do with shipbuilding, petroleum, guano, lubricating oils, chemicals, coffee, liquors, ore refineries, and foundries. To them should really be added the seven classes of manufactures as given in CONSULAR REPORTS No. 185 (February, 1896), p. 140, occurring in a lengthy report made by this office on the "Free port of Hamburg." The paragraph is as follows:

> The large industrial manufactories working for the export trade, which desire to manufacture foreign products free of duty, are, for the future, assigned to the free-port district. The establishments of this kind now existing within the future customs district, as far as they can not be removed to the free-port district, on account of their dimensions, shall, for a longer period, be permitted to continue their manufacturing [the year 1900]. To these latter industrial establishments belong (1) spirit distilleries; (2) corn distilleries, connected with the manufacture of yeast and manufacturing for export; (3) lard refineries, manufacturing for export; (4) rice mills; (5) export slaughterhouses; (6) shipbuilding yards, situated within the future customs district; (7) an existing steam refinery, which manufactures from sugar cane.

I understand that it is desired to know the advantages offered to manufacturers here under the laws peculiar to the free port proper. If one is to judge by the number of factories that have been established therein since 1888, the attractions are not of special consequence, for only a very limited number of those above mentioned have been established since 1888. Those that have entered since that date have done so, it is believed, more from considerations of convenient location than from those of tariff. It must be remembered that the position of the water front and of the many canals leading therefrom in different directions through the city, brought it about that most of the factories of the old free-port city that manufactured for export were situated in the same neighborhood, near the harbor and these canals. The limits of the new free port were intentionally so made in 1888 as to embrace as many of these factories as possible. But it must not be considered that the object of the free port was primarily only one for the protection of manufacturers for export, but that it was, perhaps, in a greater measure, one for the storage of imports which were to be afterwards distributed from this point to all parts of the world. The idea was to make Hamburg a great shipping and export center, and, incidentally, the untaxed manufactures of the free port were to serve this purpose. This feature is touched upon in the report printed in CONSULAR REPORTS No. 185, already referred to, under the headings "Special objects of the free port" (p. 141) and "Practical results" (p. 177).

It is also therein shown that the entire land and water space of the present free port is but 2,500 acres, and that the rapid commercial growth here, involving greatly increased necessities for wharf and storage facilities, entails a close and practical economy in the disposition to be made of this area. Great deliberation is, therefore, exercised in considering the applications of new manufacturers desiring to enter the free port, and as few as possible are permitted.

In regard to the several industries enumerated in the paragraph quoted from the already published report, it may be pertinent to mention that the spirit distilleries will, for various reasons, probably remain outside of the free port after the year 1900. The only two that were within it were destroyed by fire, and insurance companies have declined to take further risks of this kind in the free port, where so many explosives and combustible substances are stored. Besides this, under the present imperial internal-tax system and the export bounty of 6 marks ($1.43) per 100 liters on domestic spirits, it is found more profitable to manufacture from the home article. That rice mills, as another example, do not desire the protection of the free port is proven by the fact that an important one has recently been constructed just outside of its limits, and is doing a prosperous business; in fact, a more prosperous one than another mill which moved into the free port from a distant part of the city, not so much from customs considerations as to be nearer the deep-water navigation. Export slaughterhouses no longer exist, on account of the restrictions which have been placed upon the entry of foreign cattle.

It is not intended to convey the impression that the manufactures in the free port are not benefited by its exemptions. On the contrary, it is thought that these very industries were attracted to Hamburg originally, and have thrived here since, chiefly in view of the free-port feature. The fact that so few new ones have been established in the free port since 1888 is, no doubt, due to the large number that existed here prior to that time, embracing nearly all articles that could be successfully made here, either with or without freedom from customs imports on the raw materials. It is simply that the ground had been already pretty well covered and that competition had progressed to the danger point for new enterprises.

A good illustration of the creation of manufactures that were not already represented in the free port is found in the removal thither from the Rhine Province of two factories using the residue from petroleum. This being a large market for the importation of crude petroleum, this residue could naturally be handled more conveniently and profitably here on the spot, with a saving of freights and loss of time both ways between here and the Rhine.

While admitting the advantages to manufactures of the free-port system, I may perhaps be allowed to express the personal opinion, in conclusion, after a careful study of the whole subject, that the methods of our bonded warehouses at home and of our drawback system ought to be capable of being so facilitated and cheapened as to render them a satisfactory substitute for free ports, which, by giving exceptional advantages to certain cities, could not help antagonizing that American spirit of equality and fair play toward all alike that our Constitution would seem to so clearly contend for.

W. Henry Robertson,
Hamburg, *March 31, 1897.* *Consul.*

INDUSTRIES IN THE FREE PORT OF COPENHAGEN.

HARBOR-TAX AMENDMENT.

Referring to my report on the free port of Copenhagen, published in Consular Reports No. 185 (February, 1896), p. 203, section 2 of the proclamation quoted on page 208 respecting harbor taxes in Copenhagen is amended by the addition of the following:

> Goods can, however, with the approval of the custom-house inspector at the free port, be exempt from the tax, when it is proved by custom-house certificate that they did not arrive by sea at Copenhagen from abroad or that the tax on the goods, even if they were originally brought to Copenhagen by sea, has been liquidated before their transfer to the free port.

INDUSTRIES IN THE FREE PORT OF COPENHAGEN.

(1) *Den Ankerske Marmorforretning, Limited.*—This company was formed in October, 1895, to operate marble quarries in Norway, formerly owned by a Mr. Anker; hence its name. It has a capital, invested to develop the quarries in Norway and operate the marble works now nearing completion in the free port, amounting to 1,500,000 kroner ($402,000). It is proposed to bring the rough marble from the quarry to the works in the free port and there prepare it for building purposes. Machinery is imported for the purpose from Belgium, and operated by electric power supplied by the free-port company. The blocks of marble are handled by an electric crane. The company employs about sixty men.

During the past summer a shipment of these dressed blocks of marble was sent to New York as an experiment, but with what success is not known.

(2) *Sirius Frihavns Chokoladefabrik, Limited.*—This company was formed in August, 1895; capital, 80,000 kroner ($21,440). It em-

ploys ten workmen and manufactures chocolate and cocoa for domestic use and export trade.

(3) *Ferdinand Andersen Company.*—Machinery in use cost about 35,000 kroner ($9,380), but the actual capital invested in the business can not be given, the company refusing to state the amount and declining to give any information. The concern is a coffee cleaning, sorting, and coloring establishment, and employs about one hundred workmen.

(4) *Dansk Export Snedkeri Fabrik, Limited.*—This company was formed in July, 1896, with a capital stock of 400,000 kroner ($107,-200). It is a factory for everything pertaining to the joiners' and carpenters' trade, and especially material for house building. The workshops are not yet ready, but the company expects to be at work by June, 1897, and will employ about one hundred men.

(5) *Nordisk Cyclefabrik, Limited.*—This is a company formed in August, 1896, to develop G. Halberstadt's patent of a chainless bicycle. The invention (or improvement) has been patented in the United States. The company is at work now in temporary quarters, but expect to have their shops in the free port in operation by April, 1897. One American machinist, Mr. F. A. Stanley, of Hartford, Conn., is at present employed by this firm, and the machinery has been imported from the United States. Much is claimed for this chainless wheel, and Mr. Stanley, who has some knowledge of bicycles and has worked in a bicycle factory, thinks it the most important step toward the perfect bicycle yet made. The company expects to attain a capacity of 6,000 to 8,000 wheels per year with the machinery now being set up, but if they meet with the success they expect, the works will, of course, be enlarged. The capital invested is 350,000 kroner ($93,800), and they will employ at the start about ten men. The machinery will be driven by electricity, supplied by the free-port company.

(6) *Nordisk Kaffee Kompagni, Limited.*—This company was formed in 1896 with a capital of 100,000 kroner ($26,800). They transact a business in raw and parched coffee. The machinery at the works is driven by electricity supplied by the free-port company, and sixty men and women are employed.

(7) *Copenhagen Free-Port Lumber Company, Limited.*—This company was formed in the latter part of 1895 with a capital stock of 210,000 kroner ($56,280) by twenty of the principal lumber importers of Copenhagen, with the object, partly by consignments and partly by the purchase of hard wood direct from America, of avoiding the middlemen. They intend also to introduce sales by auction when the stock on hand is sufficiently large and to export lumber to Norway, Sweden, and Russia, in which countries they maintain traveling

salesmen. The idea seems to have met with some success, for several cargoes have already been received from the United States, consisting of walnut, oak, cottonwood, cypress, whitewood, and cherry; from the Antilles (Cuba), two cargoes of mahogany; from Mexico, one cargo of tobasco, mahogany, and cedar; from Brazil, different kinds of hard wood have been imported, while mahogany has been received from Africa and teak wood from Siam. The company also has a large and increasing trade in veneer. A sawmill, run by electric power and convenient to the stock of lumber, is at work within the free-port inclosure. The lumber company has recently purchased a lot for 150,000 kroner ($40,200) outside of the free port, on which will be built a large saw and planing mill to be worked by steam power, but which will be operated in connection with the works in the free port. At each factory about fifty men will be employed.

I have had occasion in a former report (CONSULAR REPORTS NO. 174, March, 1895, p. 392, "American lumber in Denmark") to call the attention of American dealers to Denmark and the free port especially as a lumber market. The experience of the lumber company above outlined would seem to justify the views therein expressed.

(8) *Frihavns Kaffebranderiet, by S. Bonnevil Lorentzen.*—This company commenced business in May, 1896, conducts a coffee-roasting establishment, and employs thirty men. The exact amount of capital involved could not be ascertained, but the factory building cost 75,000 kroner ($20,100), and machinery with latest improvements was imported from Germany.

The large quantities of coffee now brought into and stored in the free port have made Copenhagen the coffee depot for Scandinavia, which trade formerly went to Hamburg and Bremen.

These are the only industries at present carried on in the free port; a result not as satisfactory as could be expected when one considers that free raw material delivered at the door, unexcelled transportation and terminal facilities, and cheap motive power—all important factors—are at the command of all new enterprises within its territory. It is considered, however, that this showing for the first two years of its business life sufficiently indicates that the free port is surely but slowly fulfilling the purpose for which it was created and designed.

ROBERT J. KIRK,
Consul.

COPENHAGEN, *January 27, 1897.*

LABOR BUREAUS IN THE NETHERLANDS.

I have the honor to send to the Department, under separate cover of this date, two copies of a measure which has just passed the States-General and received the royal sanction, whereby it is provided that labor bureaus shall be established in the Netherlands.

The measure consists of forty-six articles, under seven headings, as follows: Composition and sphere of the bureaus, articles 1 to 7; members, articles 8 to 13; electors, articles 14 to 18; bureau committees, articles 19 to 21; differences, articles 22 to 27; meetings of the bureaus and the committees, articles 28 to 34; general regulations, articles 35 to 46.

The articles provide:

Article 1, that where the need for a bureau for one or more branches of labor is apparent, in any one or more combined communities, such shall be established by royal order on the advice of the Minister of Waterstaat and Commerce, the bureau to be disbanded in like manner where just reason for so doing, as set forth in this article, shall appear.

Article 2, that the bureau shall watch the interests of masters and men (*a*) by collecting statistics, (*b*) by affording advice to authorities, (*c*) by advising and framing rules and regulations in the interest of, and at the request of, interested parties, (*d*) by preventing and settling differences.

Article 3, that under the term "masters" are understood all persons employing for wage an employee of above 20 years of age, as also the masters' superintendents; undermen, all persons enjoying wage.

Article 4, that the royal order shall determine the limit of the district embraced in the operations of the bureau, the seat of operation, the trade or trades comprised, and the number of its members.

Article 5, that the bureau shall consist one-half of masters elected by masters of trades represented and the other half of men.

Article 6, that the rules and regulations of any bureau must be submitted to the Government for approval.

Article 7, that every bureau shall meet at least four times a year.

Article 8, that members (either men or women) shall be Netherlands citizens of more than 30 years of age and have worked in the district throughout the calendar year preceding their election.

Persons whose freedom of action is limited by a decision of a judicial court are excluded from the above privilege.

Article 9, that no person can be a member of more than one bureau.

Articles 10, 11, and 12, that members shall be elected by lawful electors in accordance with prescribed regulations.

Article 13, that members shall be elected for a period of five years, to retire simultaneously at the end of such period, at which time they become eligible for reelection. They shall be at liberty to resign office at any time that each or all may deem fit, in which case, if the Minister of Waterstaat and Commerce shall think proper, the vacancy or vacancies shall be filled by means of a by-election.

Article 14, that electors shall be 25 years of age and have worked in the district throughout the calendar year preceding the time at which they record their votes. Female suffrage is recognized.

Article 15, that masters shall have one vote in every district in which their interests are directly affected and at the same time represented in a bureau, and that the men shall vote in that district or community in which their domicile lies.

Article 16, that elections shall be conducted in accordance with the generally accepted rules.

Articles 17 and 18, that employers shall afford their employees an opportunity to record their votes.

Article 19, that the bureau committee shall consist of a president and two members, the first mentioned to be alternately masters' and men's nominee during every six months; the last mentioned to be one-half the masters' nominees and the other half the men's representatives.

Article 20, that each bureau shall have its paid secretary, who shall be compensated for his office expenses, but beyond the management of the office and the giving of advice to the bureau when required, shall take no active part in the deliberations.

Article 21, that the committee shall meet as often as the president shall deem necessary, any one of the members having the right to request in writing that a meeting be called.

Article 22, that in case of a difference arising in any trade, either or both of the parties interested therein may, in accordance with certain prescribed rules, address the bureau to the end that a mediation council intervene.

Article 23, that where a trade has no representative in an established bureau, an appeal may be made, in case of a difference arising, to any bureau in the neighborhood, which, through the intervention of the burgomaster of the community in which the trade is carried on, is thereupon authorized to act as mediator, whereupon all other bureaus shall refrain from interference. Moreover, the burgomaster, or the Queen's commissary of the province, may call in the needed assistance.

Articles 24 to 26, inclusive, that the duties of the bureau shall, in the above-mentioned cases, be the settlement of differences to the satisfaction of all parties in the most impartial manner.

Article 27, that women shall be allowed to sit on an arbitration committee.

Article 28, that at least twenty-four hours' notice shall be given of all meetings, except in cases of great urgency, the subjects for discussion being stated in the announcement of the meeting.

Article 29, that the meetings shall be private, and secrecy with regard to the discussions may be demanded of all present.

Article 30, that the voting shall be in accordance with generally adopted rules, the majority deciding. In case of a tie in a committee meeting, a new vote shall be taken at the subsequent meeting.

Article 31, that, where a vote is taken, the number of representatives of masters and of men shall be equal, and when the number of representatives of each party is not equal, the youngest in years of the larger party shall refrain from voting. No decision shall be arrived at if half the members of either party are absent.

Article 32, that in case of a report, the minority may also, in a separate report, state its views.

Article 33, that the chamber shall annually report on its proceedings to the Minister of Waterstaat, who shall submit a part or the whole thereof to the States-General. Further, in accordance with certain Government rules, it shall be agreed what information the bureaus shall supply to the Minister of Waterstaat in addition to the report. Of the information afforded, such as appears fit therefor shall be made public.

Article 34, that the bureau shall exercise its own discretion as to complying with more than one request addressed to it in virtue of article 2.

Article 35, that lighted and warmed apartments shall, if necessary, be provided free of charge at the expense of the Government.

Article 36, that all documents shall be exempt from registration, stamp duty, and postage.

Articles 37 and 38, that the Government shall determine what, if any, part its officials or employees shall take in any labor bureau, and the measures that may become necessary toward the carrying out of this law.

Article 39, that false acquisition of an elector's rights renders the culprit liable to one year's imprisonment.

Article 40, that abetting to the above may involve an imprisonment of six months.

Articles 41 to 44 relate to the penalties involved for noncompliance with the provisions of this law.

And, finally, it is provided that this law shall go into effect on a date to be hereafter decreed by royal order.

WILLIAM E. QUINBY,
Minister.

THE HAGUE, *May 24, 1897.*

INDUSTRIAL CENTRALIZATION IN EUROPE.*

Our period is distinguished by its tendency to centralization, not only in the state, but likewise in industry and commerce. Large firms are competing with small shops to such an extent that the latter are disappearing one after another. The factory has displaced the workshops. Everything is being done on a large scale; everything is becoming colossal.

That is not all. We see now even the great factories, not finding themselves sufficiently strong alone and fearing their reciprocal competition, renouncing their own autonomy and combining among themselves; and this tendency is everywhere manifest. The French chargé d'affaires at Berlin calls attention to this centralization in Germany; the French consul at Glasgow mentions the same phenomenon at Glasgow.

Read what the French representative at Berlin says of what is occurring beyond the Rhine:

> In Westphalia, cotton spinning has attained a remarkable development and is not far from equalling the same industry in the Rhenish provinces. At the present moment, business is flourishing and profitable; there is talk of uniting several establishments under the form of stock companies.
>
> The chamber of commerce of Duisburg, in its annual report of 1894, speaks of trusts. "For several years past," it says, "it has been observed that our economic life associations are becoming more and more numerous which have as an object the regulation of prices and production, the establishment of certain rules of sale, of supply, etc. These associations seek to lessen the supply which, by reason of overproduction, has attained enormous proportions. From these associations have resulted the societies and corporations for direct sale. There can not be any longer doubt of it; these associations of industrial enterprise have become a question of life or death for industry. The violent pressure of a critical situation has alone been able to bring manufacturers to sacrifice a part of their autonomy and to submit to a common management.
>
> "Finally, the only choice open is between insufficient profits, even losses, or an action in common which indemnifies to a certain degree the troubles and care borne.

---

*Translation of an article by Henri Blancheville in the Woolen Industry of Paris. Translated by Consul Morris, of Ghent, and transmitted to the Department under date of May 3, 1897.

These considerations are strong enough to counterbalance in the associations and syndicates the inconveniences and clashings of interests. The conviction is growing stronger and stronger that it is impossible to reach any result without association, and this conviction justifies the associations.

"The first industrial association (cartel industry) was that of the tinners of Cologne, which existed as early as 1862. In 1864, the general association of German manufacturers of rails was established. But it was not until 1875 that such associations acquired any economic importance. The present number in Germany is in dispute; it varies between forty and ninety, according to the point of view taken."

According to information furnished by the French consul at Glasgow, here is what is taking place in that region:

The manufacture of sewing thread is one of the most prosperous industries of Scotland. It has its center at Paisley, a neighboring city of Glasgow, where it was established by the Coats firm about the beginning of the century. This industry has just furnished a remarkable example of the tendency which leads several rival enterprises to consolidate in one, with the view of strengthening themselves against those without.

For several years past, by reason of a preliminary consolidation, the manufacture of Scotch thread has been chiefly concentrated in two Paisley corporations—J. & P. Coats, Limited, and Clark & Co. In the foremost rank among their competitors were the two houses of J. Brook & Bros., at Huddersfield, and Chadwick & Bro., at Bolton. These four important houses consolidated a few months ago into a powerful association. A few details of this union can not be without interest. They are taken from the circular which announced this change to their stockholders and the public.

The four concerns—Coats, Clark, Brook, and Chadwick—have in reality consolidated, but, for practical reasons, this fusion has assumed the form of a purchase of the three last establishments by the corporation of J. & P. Coats, Limited. To obtain the funds necessary for this transaction, there were created 175,000 new shares of £10 each, of which 50,000 were preferred—that which raises the capital stock of the corporation to £5,500,000. But such was the credit which it enjoyed, such was the advance already realized by the anticipated announcement of consolidation, that the 125,000 new ordinary shares of £10 were issued at £50, or, so far as they were concerned, giving the company a premium to incorporate in its assets equal to quintuple that added to its nominal capital.

The three houses purchased were paid for partially in new stock, the total of the preferred, and partially in cash, but with the privilege of taking supplementarily ordinary stock at the rate of £50, instead of cash. They decided for this supplement of stock to the total amount of £2,000,000, payable in cash, and further agreed not to transfer these shares during two years.

The stock thus given in payment being deducted, there remained only 52,000 ordinary shares to be placed at the disposal of the public, or, rather, of former stockholders, for whom they were reserved pro rata, and in the proportion of three new shares to ten old ones.

The number of directors of the Coats corporation was increased from twelve to eighteen, for the purpose of admitting to the directory six representatives of the three annexed firms.

At the meeting of the stockholders, October 31 last, the president thought it prudent to deny a rumor publicly current that these changes would constitute a kind of monopoly of the world's manufacture of sewing threads. He remarked that the number of other manufacturers of these articles was still twenty in the United Kingdom and forty in the different countries of continental Europe, and there was also a certain number—two of them very important—in the United States. He added that these houses represented likewise in their total a very considerable capital; that many of them are strong and employ more than 1,000 workmen. There could not be any question of a monopoly. Such was not, he said, the object of the consolidation, and the success which was promised was founded upon other advantages, especially upon the experience acquired by the contracting parties and the quality of their products, upon the diminution of cost of production and general expenses.

A declaration has been made elsewhere that it was not proposed to raise the prices of sewing thread; and, according to the commercial press, these prices after the fusion are 15s., 22½s., and 30s. per gross for threads of 200, 300, and 400 yards, respectively; that is to say, they are still less than, or scarcely equal to, those which prevailed until March, 1895.

But the journal in question adds they had fallen to 12s., 19s., and 24s. during 1895-96, when the corporations recently consolidated were waging a bitter competition. Their agreement, then, seems to have increased by several shillings the most recent prices—those of the period of conflict.

However that may be, the J. & P. Coats Company, Limited, after this vast and skillful transaction, now controls almost the entire manufacture of sewing thread in this district, and also owns establishments in other regions. The preferred shares, which bear 6 per cent interest, are at present between £18 and £19, and its ordinary shares have reached the quotation of £60; both are valued on their face at £10. At the meeting of October 3 last, an annual dividend of 20 per cent was declared on the ordinary stock.

These facts are significant. They certainly indicate one of the tendencies—perhaps, it might be said, one of the necessities—of our epoch. It is certain that production is passing through a serious crisis. Competition has occasioned a considerable decline in prices, and in order to retain markets, certain industries have been obliged to work under unprofitable conditions. To avoid final ruin, they have agreed either to limit the production to maintain prices or to conclude complete consolidation. Hence the cartels, the syndicates for production, the associations.

We neither approve nor blame this new procedure; we simply record it, remarking that sometimes certain laws are developed, whatever may be their consequences.

Are these agglomerations a good or an evil? It is evident that the manufacturer who enters, does it not with a gay heart, but he prefers to be absorbed into an association rather than to entirely disappear, together with his capital and his machinery; the workman earns more, for the increase of prices can not but be favorable to wages; the consumer alone would have an interest in maintaining competition, but it must not be forgotten that every one is, time by time, or, rather, at the same time, consumer of one article and producer of another, wherefrom results the establishment of the equilibrium between interests apparently adverse, but in reality coordinate.

These concentrations are for large manufacturing industries what cooperation is to the small, but evidently with an effect in proportion with the forces thus united.

In commercial matters, we have not ceased to recommend the associations or syndicates with a view to exportation; perhaps, some day, we shall be inclined to likewise favor unions of producers; moreover, they already exist among us for the metallurgy, the cotton and woolen industries—facts which prove once more that industrial conditions have experienced a revolution. To sell, it is necessary to sell at a low price. Now, this last is not possible unless there is a great production and the greatest possible lessening of general expenses.

Concentration is one of the elements of this condition. It is that which the Germans and the English have perfectly understood, and this movement, while growing stronger, will only become more and more accentuated. We have, therefore, considered it well to call the attention of our readers to the events which, in this respect, are occurring abroad.

EUROPEAN ELECTRIC STREET RAILWAYS.

L'Energie Électrique (a periodical) publishes the status of European electric street railways in operation on January 1, 1897, and shows the progress made in the building of electric railways during 1896.

The number of lines in operation at the beginning of last year has increased from 111 to 150, their total length from 902 to 1,459 kilometers (542 to 878 miles), the capacities of the power stations from 25,095 to 47,596 kilos (watt) and the number of motor cars from 1,747 to 3,100.

The relatively light increase of lines as compared with the increased capacity of the power stations and autocars shows that the development of street railways has principally occurred in the larger cities and systems. Germany stands again at the head, with a length of 642 kilometers (386 miles) and 1,631 automobile wagons, as against a length of 817 kilometers (492 miles) and 11,469 wagons in all other European countries.

If, however, the superficial area and the population of the different countries are taken into consideration, Switzerland, which, in regard to the absolute length of lines and number of cars, is classed as fifth, with 17 lines, a total length of 79 kilometers (47.5 miles), and 129 motor cars, stands first in line in the European street-railway traffic.

The following comparative table gives a synopsis of the extension and the modus operandi of the electric railways in operation on January 1, 1896 and 1897:

Extension.

Countries.	Total length of lines.		Total capacity of power stations in kilos (watt).		Total number of motor cars.	
	1897.	1896.	1897.	1896.	1897.	1896.
	Miles.	*Miles.*				
Germany	386	245	18,963	7,194	1,631	857
France	168	79.5	8,736	4,490	432	225
Great Britain	77	62.5	5,156	4,683	200	168
Italy	69.5	24	5,970	1,890	289	84
Austria-Hungary	50.5	43	2,389	1,949	194	157
Switzerland	47.5	28.5	2,622	1,559	129	86
Spain	28.5	17.5	600	600	40	26
Belgium	21	15	1,220	1,120	73	48
Russia	9	6	870	540	48	32
Servia	6	6	200	200	11	11
Sweden and Norway	4.5	4.5	225	225	15	15
Bosnia	3.5	3.5	75	75	6	6
Roumania	3	3	140	140	15	15
Netherlands	2	2	320	320	14	14
Portugal	2	2	110	110	3	3
Total	878	542	47,596	25,095	3,100	1.747

Systems.

Countries.	Lines with overhead wires.		Lines with subterranean conduits.		Lines with center rails.		Lines with accumulators.		Total.	
	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.	1897.	1896.
Germany	45	35	2	1	....	....	4	....	51	36
France	19	11	1	....	1	1	5	4	26	16
Great Britain	11	8	1	1	7	8	1	1	20	18
Italy	9	7	....	....	....	....	....	....	9	7
Austria-Hungary	7	6	2	1	....	....	1	2	10	9
Switzerland	17	12	....	....	....	....	....	....	17	12
Spain	3	2	....	....	....	....	....	....	3	2
Belgium	4	3	1	....	....	....	....	....	5	3
Russia	2	2	1	....	....	....	....	....	3	2
Servia	1	1	....	....	....	....	....	....	1	1
Sweden and Norway	1	1	....	....	....	....	....	....	1	1
Bosnia	1	1	....	....	....	....	....	....	1	1
Roumania	1	1	....	....	....	....	....	....	1	1
Netherlands	....	....	....	....	....	....	1	1	1	1
Portugal	1	1	....	....	....	....	....	....	1	1
Total	122	91	8	3	8	9	12	8	150	111

As can be seen from the above, the overhead-wire system is still mostly in use. Out of 150 lines, 122 use the trolley system exclusively. The subterranean-conduit system has been introduced lately in several large cities, which explains the increase of from 3 to 8 in the past year.

The number of lines operating a center rail and of those with accumulator systems shows little increase, but of late, projects are in course of maturing on two lines, namely, in Hanover and Dresden, whereby a mixed system is to be introduced; that is, the power inside of these cities is to be supplied from accumulators, while for the suburban traffic, the trolley or overhead system is to be utilized.

EUGENE GERMAIN,
Consul.

ZURICH, *April 28, 1897.*

RETAIL TRADES INQUIRY AT GHENT.

On January 7 of the present year, the common council of Ghent voted the establishment of a committee of inquiry to investigate the condition of trade among the small retail dealers of the city, and to determine, if possible, the measures needed to ameliorate the situation. In order to obtain the information required and to compile the statistics necessary to serve as the basis of its recommendations, this committee has just issued to all small retail business houses a circular including many pertinent questions. As the inquiry seems to involve much the same discussion as is now prevailing in the large cities of the United States concerning the causes of apparent distress more or less marked among the smaller retail merchants, it may be of interest to note what questions are considered proper for examination. It is with this point in view that the following translation of this committee's circular has been made. Upon the occasion of the report of the conclusions found, I shall endeavor to obtain and forward a copy of the same, or at least a résumé thereof.

HENRY C. MORRIS,
Consul.

GHENT, *May 4, 1897.*

LIST OF QUESTIONS.

I.—GHENT RETAILERS AND COMPETITION.

(*A*) *Local competition.*—Has your trade suffered by reason of (*a*) combinations of capital, especially such as cooperative associations, corporations, or copartnerships; (*b*) the large stores, factories, agencies, and bazaars (department stores); (*c*) forced sales and failures; (*d*) peddling; (*e*) retail and direct sales to customers by traveling agents; (*f*) excessive accumulation on the Ghent market of merchandise similar to that sold by you; (*g*) the sale of imitations or other falsifications of goods or other methods of unfair competition; (*h*) the competition of prisons; (*i*) public markets; (*j*) public auctions of new goods; (*k*) other causes.

Indicate as far as possible for each of these points: Since when, and in what respect, has the situation become critical? Is the evil increasing or decreasing? What, in your opinion, are the best remedies to propose?

(*B*) *Outside competition in the city.*—Are you suffering from the competition of those outside of Ghent who exercise the same trade or sell the same articles in the capital (Brussels); in other large cities; in the country?

Indicate as far as possible for each of these points: (*a*) Since when, and in what respect, has the situation become critical; (*b*) is the evil increasing or decreasing; (*c*) by what methods do outside houses secure their customers in Ghent; (*d*) what are, in your opinion, the best remedies; (*e*) what districts compete the most with you.

(*C*) *Foreign competition.*—Which are the countries whose competition is the most harmful to you?

Indicate as far as possible for each of these points: (*a*) Since when, and in what respect, has the situation become critical; (*b*) is the evil increasing or decreasing; (*c*) by what means do foreign houses find customers at Ghent; (*d*) why are foreign products preferred; (*e*) what, in your opinion, are the remedies to be proposed and the improvements to be introduced.

Could the acquirement of foreign languages be rendered easier for you, and how? Could not tradesmen organize so as to be immediately informed of the most recent novelties?

II.—TRADE AND CREDIT.

Do you suffer from the credit you are obliged to give your customers or other persons?

In what form is the credit from those of whom you buy the most favorable to your trade?

Is cash payment usual in your trade?

Could it be established, and by what means?

Could it be inaugurated by unanimous consent?

Do credit houses, selling on weekly or monthly installments, injure you by their competition or otherwise?

Is financial credit organized in a practical manner for your trade? What credit system do you favor—savings institutions, state and private banks, mutual credit, or other?

III.—TRADE AND THE SYSTEM OF TAXATION.

Are the bases in usage for the license tax satisfactory to you?

What would you propose?

Does the system of direct taxes harm the retailer?

Do certain duties, excise taxes, or other indirect taxes do injury to the interests of your trade?

Have you any complaint against the system of taxation practiced by the State, province, or city?

Is the right of confiscation exercised at the frontier harmful to you? In what respect?

Do you consider that the large stores and bazaars (department stores) should pay a license for each article constituting a separate branch of trade?

IV.—TRADE AND GENERAL EXPENSES.

What is the proportion of your general expenses as compared with the magnitude of your business? Give the following items: (1) Wages of workmen; (2) wages of clerks; (3) rent paid, less amount received from subtenants; (4) amount of capital invested; (5) other expenses.

Does the assistance of your family reduce your general expenses?

Have your volume of business and the total of your general expenses increased or diminished in recent years? In what proportions can general expenses in your business be lessened by the employment of machines, machinery, etc.?

Are there any reasons which prevent you from introducing machinery?

Would it not be useful to disseminate among the class of smaller merchants a knowledge of commercial and industrial sciences?

Would not trade organization lessen your general expenses?

Would not the creation of merchants' leagues in each trade lessen your general expenses and improve your situation, viz: (*a*) In making certain purchases wholesale and on better terms; (*b*) in obtaining a more detailed examination of goods purchased; (*c*) in maintaining actions at law in the interest of the association; (*d*) in facilitating bookkeeping; (*e*) in permitting smaller merchants to participate in bidding for public work; (*f*) in enabling you to suppress middlemen (such as traveling salesmen, agents, etc.), who increase the price of your goods; (*g*) in placing you in more direct relations with the wholesalers and producers.

V.—TRADE AND FAILURES.

Have you suffered from the failure of others?

Have you been obliged to accept from insolvent debtors settlements and adjustments?

To what causes were these suspensions of payment due, especially such as have occurred in your trade?

Does the legal system of bankruptcies and insolvencies seem to you susceptible of improvements?

VI.—TRADE AND THE OTHER CLASSES OF SOCIETY

Do you find in sufficient numbers and ability required, (*a*) apprentices, (*b*) workmen, (*c*) superintendents, (*d*) clerks, shop girls, and other employees; (*e*) must you seek them outside the city?

Have not questions of wages and other difficulties had an influence on the condition of your personal business or the general development of the trade or business which you follow?

Does there exist for your trade a sufficient and general trade instruction?

VII.—CONSUMERS.

Are sale prices posted up or published in your trade?

Does that cause you advantage or inconvenience?

Have you benefited or suffered by the increase or decrease of luxury, or by changes occurring in the social position of other classes of your fellow-citizens, such as public officials, people living on their income, large manufacturers, and merchants?

VIII.—COST OF LEGAL PROCEDURE.

Are not certain classes of persons privileged in the legal defense of their interests; for example, by their exemption from court costs?

Does not the present method of court costs fall most heavily on the least important litigants? What are the remedies to be applied?

Are you satisfied with the working of the courts of commerce?

IX.—LEGISLATION AND OFFICIAL CONTROL.

Does your business suffer from certain regulations or laws?

What are the best means to improve this situation?

What modifications in the laws and regulations would you propose?

The name of the person replying will in all cases remain unmentioned and all communications received will be considered confidential, unless special authority to publish be granted.

FINANCIAL CRISIS IN NICARAGUA.

A subject of great interest is the present economic situation in Nicaragua, coming while the country is still suffering from the consequences of its civil wars of the last four years.

Commerce and agriculture are passing through a crisis from which serious losses may result. Until a few months ago, Nicaragua appeared to be steadily advancing, without obstacles, notwithstanding the instability of its public institutions. Now, a general distrust, tending to impede transactions, paralyzes commerce and forces the suspension of payments. A good many property holders, especially coffee planters, possessing double in real estate the amount of their liabilities, are passing through sore straits, and some of them will have to suspend agricultural work, at the risk of losing the future crops.

The great fall in the price of coffee, the main product of this country, has caused a great undervaluation of all properties and placed the credit of those who contracted large liabilities in great danger, even without taking into account the great fluctuation of that article in the markets of the United States and Europe. The cost of production of a quintal of coffee only three and four years ago amounted to from 5 to 6 soles* ($3.02 to $3.62), and sold at high prices—30 soles ($18.12) and more—with low rate of exchange; to-day, the cost amounts to between 12 and 13 soles ($5.62 to $6.08), at very low prices and very high rate of exchange. To-day's quotation is 22 soles ($10.30) per quintal and transactions have been made at 19.50 soles ($9.13).

Relying on the high prices which ruled a few years ago, the planters entered into agreements which they are now unable to meet, the consequence being more mortgages, and even bankruptcy. They are now facing the stern reality, are commencing to practice the strictest economy, and display more energy than heretofore in looking personally after their work.

It is to be hoped that the day of general bankruptcy may be very distant, but all depends on the coming crops. As it is, the foreign and native commercial houses, on whom the planters depend for advances, have withdrawn their credits on account of the very heavy losses suffered. In one instance, a Hamburg house alone lost $180,000 (silver) and it is calculated will suffer a loss this year throughout Nicaragua of about 1,500,000 marks ($357,000).

---

*On July 1, 1893, the sol was valued at 60.4 cents, and on April 1, 1897, at 46.8 cents, United States currency.

The Nicaraguan Government is now trying by every means to solve the problem and to pass safely through this impending crisis by observing strict economy. Salaries have been lowered, from that of the President of the Republic down to that of the smallest employee, and a good many offices have been done away with altogether.

PAUL WIESIKE,
Consul.

MANAGUA, *May 15, 1897.*

TOBACCO MONOPOLY IN NICARAGUA.

In my dispatch dated October 23, 1896, I had the honor to inform the Department that the duty on the importation of tobacco into Nicaragua had been reduced, and that this would open a market in this country for United States tobacco. Tobacco dealers in Mexico and Jamaica have taken advantage of this change in the tariff by flooding this market with cigars of their make; but American merchants, who could have sold, if they had made an effort to do so, a good quantity of tobacco in bulk, cigarettes, and smoking and chewing tobacco, have lost a good opportunity, for, with the change in the financial condition, the Government has reestablished the strict monopoly of tobacco in this country.

I have the honor to inclose the decree announcing the reestablishment of the monopoly and a translation thereof.

PAUL WIESIKE,
Consul.

MANAGUA, *May 29, 1897.*

[Translation.]

REESTABLISHMENT OF THE TOBACCO MONOPOLY IN NICARAGUA.

The President of Nicaragua, by the rights vested in him, in consideration that the abolishment of the tobacco monopoly has deprived the treasury of a considerable income, while, on the other hand, the public in general seems not to have been benefited by it, as was expected, issues the following decree:

ARTICLE 1. On the 1st of July next shall be reestablished the monopoly of tobacco in a form prescribed by the present law.

ART. 2. From the date of this decree nobody shall be allowed to plant or import tobacco without being previously authorized by the Government.

ART. 3. The Minister of Finance shall designate every year the zones in which tobacco must be planted. The conditions to which the planters shall have to submit will be determined by the regulations which will be provided by the administration of this revenue.

ART. 4. The actual holders of tobacco must deposit their stock during the month of June at the places which the Government designates; the detention of the stock till after June 30 shall be considered as a defraudation of the treasury, and shall be punished according to law.

ART. 5. The planters of tobacco must convey their entire crops to the national warehouses at the risk of incurring the fine stated by the respective regulations.

ART. 6. The tobacco which has been deposited in conformity with the previous articles shall be sold by its owners at wholesale in the warehouses, previously paying the duty of 80 centavos for each kilogram of every class or kind of the article.

ART. 7. The duty shall be superintended by a director-general and the other employees that may be necessary.

ART. 8. For the retail sale shall be established shops by a license system. The director-general of revenue shall determine the number of the shops, the quantity of kilograms that shall be allowed to be sold every month, and the price of the license, which shall be from 5 to 25 pesos; for all this he shall take into consideration the importance of the population and the number of places of sale or places licensed that are located in the respective localities.

ART. 9. The revenue collectors shall collect the tobacco tax and give account for it.

ART. 10. The tobacco which is offered for sale before the fiscal tax has been paid shall be confiscated and the seller shall be punished according to law.

ART. 11. Private parties are only allowed to keep up to 12 kilograms of tobacco, leaf or manufactured. The keeping of a larger quantity is illegal, but it shall be allowed to retain more than 12 kilograms with the permission of the Government, and then only for exportation.

ART. 12. The fines which are established for defraudation in the liquor trade shall be applied also to the defrauders of the tobacco law.

ART. 13. For the importation of tobacco, of whatsoever quantity, an import duty of 1.70 pesos* ($1.70) shall be paid for each kilogram if it is in leaf, or 3 pesos if manufactured.

ART. 14. The leaf tobacco which is imported must be delivered at the warehouses and the sale of it shall be effected according to the provisions of this law. The manufactured tobacco which is imported shall be exempted from delivery at the warehouses as long as it does not exceed 2 kilograms.

ART. 15. The exportation of manufactured or leaf tobacco is free from duty or tax; but, in order to export it, it is necessary to solicit previously the authorization of the Government, by which the exporter, by means of a guaranty, obliges himself to present within a certain term, which will be established, and before the authority which will be designated, a certificate of the custom-house collector showing that such tobacco has been exported at that port.

ART. 16. The Government shall issue the regulations in which the provisions and rules shall be determined which will have to be observed for the cultivation, the sale, the importation, the exportation, and the traffic of tobacco, and in which shall be defined the duties and obligations of the employees of this branch.

ART. 17. Any law inconsistent with this decree shall be repealed.

BANANA CULTIVATION IN NICARAGUA.

I received a letter in April as follows:

I have heard very much regarding Costa Rica and Nicaragua, and I have come to believe that there are great opportunities for money making in those countries.

I am especially interested in the banana industry, and believe that an industrious American might become rich in a few years growing bananas. I am a farmer and own my farm. By disposing of my farm and other salable property I could raise about $4,000. At present I am barely making a fair living.

---

*The peso was valued at 46.8 cents by the United States Treasury on April 1, 1897.

From what you know of Costa Rica and Nicaragua, would you advise an American farmer, 46 years of age, of good health and robust constitution, and having about $4,000 cash, to settle in either country with the object of growing bananas?

What is the average price per acre of a plantation under cultivation?

What is the net annual profit in your section on 40 acres of bananas?

Any information you can give me in regard to the subject will be thankfully received.

This is a fair sample of many letters which have come to this office during the last two years.

Transportation facilities are much better and cheaper in some districts than in others, but the articles published in CONSULAR REPORTS descriptive of the methods of clearing, planting, and cultivating in the banana districts of Costa Rica, Honduras, and Colombia may be read with profit by persons contemplating the purchase of banana lands in Nicaragua, the conditions being practically the same in the four countries.

Bluefields is the only port in Nicaragua from which bananas are shipped. The lands on the Bluefields River and its affluents are no richer than those on other streams emptying into the Atlantic. The Bluefields, however, is the only river in the country that can be entered by steamers large enough for the fruit trade.

Plans have been submitted to the Government for the improvement of the harbor at Cape Gracias-á-Dios, at the mouth of the Wanks, or Coco, River, and, in all probability, improvements will eventually be made at the mouth of the Rio Grande. The improvement of the mouths of these rivers so as to make it possible for steam fruiters of ordinary draft to enter and clear in all kinds of weather would open up rich and extensive sections of fruit lands. Without steamships, however, no matter how fertile the soil may be, it would be misleading to advertise and sell the lands on these rivers as fruit lands. There is no local market for bananas.

The construction of the Nicaragua Canal and the springing up of large towns along its line would not create a local market of material benefit to fruit growers on rivers north of the San Juan. Enough fruits and vegetables could be grown on the San Juan River to supply the people of the entire country.

Without regular and speedy means of shipping the fruit to the United States, Nicaraguan fruit lands north of Bluefields can have but little value.

The first shipment of bananas from Bluefields was made in 1883, and comprised but 500 bunches; 8,000 bunches were shipped that year, and 40,000 bunches in 1884.

During the year ended June 30, 1894, 2,175,400 bunches were shipped, the invoiced value being $920,720.75 (United States), an average of 42⅓ cents a bunch. There was a falling off the next year, the number of bunches being 2,101,000, invoiced at 40⅔ cents (United States) per bunch. During the year ended June 30, 1896, there were shipped but 1,824,000 bunches, invoiced at 34¼ cents (United States) per bunch.

It was feared in August last that the great flood in July had destroyed most of the plants and suckers, and that but few bananas would be shipped for a year or more. The plants and suckers were damaged, but not to the extent reported at the time of the flood. Between July 1, 1896, and May 1, 1897, there were shipped 1,094,000 bunches, as against 1,311,000 bunches for the corresponding period in 1895–96. During the last ten months, the invoiced value of bananas has been 33 cents (United States) per bunch.

According to statistics published in 1895 by the governor-intendant of Bluefields, there were at that time 197 plantations on the Bluefields River and its affluents.

The following figures are taken from the compilation: Acreage under bananas, 7,100; under grass, 430; uncultivated, 27,396; total acreage, 34,926; number of banana plants, 1,420,515; average number of acres under bananas per plantation, 36; average number of banana plants per acre, 210.

During the year ended June 30, 1895, there were shipped, as already stated, 2,101,000 bunches of bananas, which were invoiced at $852,802.24 (United States), or 40⅔ cents per bunch. Assuming that the acreage did not exceed 7,100, the yield per acre was 296 bunches per annum, valued at $120.36 per acre and $4,332.96 per plantation of 36 acres.

According to the census taken in 1895, there were 52 superintendents, or overseers, and 468 laborers employed on the 197 plantations, the average wages per month being $25 (United States), exclusive of provisions for the employees, the estimated cost of all provisions being $29,630 per annum. Put in another way, the figures are as follows: Cost of labor per acre, $9.32 per annum; cost of provisions per acre, $4.17 per annum; total, $13.49.

The cost of labor and provisions, according to the foregoing figures, was but a trifle over 11 per cent of the invoiced value of the bananas shipped.

There were but 56 horses and 209 head of cattle of all kinds in the entire district.

To persons unfamiliar with the banana trade, these figures would seem to indicate that at the end of the year, a planter having 36 acres of bananas under cultivation would have $3,847.32 (United States) left after paying for all necessary labor and provisions—figures apt to bring discontent to an American farmer having but 36 acres of wheat or corn, and especially so when he compares the price of his land, ranging from $15 to $80 an acre, with that of land in eastern Nicaragua, where cultivated lands may be said to have no established market value, but few improved plantations ever having been sold.

A printed advertisement was inclosed with my report of July 22, 1896, descriptive of a certain plantation of 600 manzanas (1,036.2 acres) on the Bluefields River. The price asked was $12,000 in Nicaraguan currency, equivalent at that time to $5,964 in United States currency.

Public lands are sold at the following prices. Pasture lands, 80 centavos (37.44 cents in United States currency) per manzana (1.727 acres); fruit lands, 150 centavos (70.2 cents in United States currency) per manzana. The price of the latter, therefore, is about 40 cents (United States) an acre.

A letter from Managua, dated May 3, states that these prices will soon be increased—perhaps doubled.

The comparison, however, is not so much against our farmers at home as the figures might seem to indicate.

Bluefields banana planters do not have anything like $107 per acre after paying for the year's labor and provisions. They do not ship their bananas to the United States to be sold on commission. All the bananas are sold to the owners and agents of the steamships engaged in the banana trade.

Steamships drawing 12 feet ascend the Bluefields River as far as Rama, a distance from Bluefields of 55 or 60 miles. Upon the arrival of a fruiter at Bluefields, men are immediately dispatched up river to give orders for enough bananas to make up a cargo. The bananas ordered from each plantation are then cut and carried to the river bank. The vessel ordinarily proceeds up river the morning following her arrival and picks up her cargo, seldom remaining up river more than two days. It occasionally happens that a full cargo can not be secured, instances being known of vessels with a carrying capacity of 15,000 bunches clearing with but 8,000 bunches. During the first half of the year 1896, the average cargo was 13,062 bunches.

The planters deliver the fruit on the river bank. The steamship companies then handle it, loading the fruit on scows or lighters which are run alongside the steamers.

At present, the fruit is invoiced by the steamship companies at about 33 cents (United States) per bunch, but the planters receive only 40 centavos (18.72 cents in United States currency) per bunch of 9 hands and upwards, and 20 centavos (9.36 cents in United States currency) per bunch of 7 and 8 hands. Bunches of less than 7 hands are rejected. An attempt was made recently to force down the price of bunches of 7 hands to 10 centavos (4.68 cents in United States currency), but it failed.

Capt. J. M. Sewall, formerly of the Morgan Line, but now connected with the Weinberger Steamship Company, informs me that in invoicing bananas the steamship agents estimate that it costs from 10 to 15 cents (United States) per bunch to transfer bananas from the river bank to the steamships.

This estimate appears to be rather high, as laborers are paid but $2 in Nicaraguan currency (93.6 cents in United States currency) per day of ten hours, and 30 centavos (14.04 cents in United States currency) per hour for overtime; but lighters, tugs, superintendents' office expenses, port dues, custom-house charges, etc., may bring the cost up to the figures mentioned.

From January 1, 1896, until May 6, 1897, an export duty was laid upon bananas of 3 centavos (1.404 cents in United States currency) per bunch, shipped during the months of March, April, May, and June, and 2 centavos (0.936 cent in United States currency) per bunch during other months.

This tax, according to our consular agent at Bluefields, was abolished May 6 by Presidential decree, the planters and business men of Bluefields having represented to the Government that the banana industry would surely die unless the export tax should be removed.

The planters complain that they are barely making expenses, and that the steamship companies do not pay fair prices for bananas. It is common talk that every attempt to cultivate bananas on an extensive scale has brought disaster to the planter attempting it. The steamship people, on the other hand, claim that they are making no money, in evidence of which they point to the withdrawal of the Morgan steamships from the Bluefields route, and to the failure of the Bluefields Banana Company and the withdrawal of its boats.

From one hundred and forty to one hundred and fifty-five cargoes of bananas are shipped per annum. Norwegian vessels are chartered at from $60 to $100 (United States) per day, the owners paying all expenses except fuel and port charges. There is not a single American vessel engaged in the Bluefields fruit trade.

The average time made by these vessels between Bluefields and New Orleans or Mobile is five or five and a half days each way, each vessel making from eighteen to twenty-two round trips a year. A vessel making twenty round trips a year and carrying an average cargo of 12,000 bunches will carry 240,000 bunches per annum, equal to 20,000 bunches per month.

Comparing the prices paid in Bluefields—less than 19 cents (United States) per bunch of first-class fruit—with the market prices of bananas in the United States, it would seem as if, making due allowance for spoiled fruit and for occasional short cargoes, there ought to be a fair profit in the handling of bananas by the steamship companies.

According to Captain Sewall, one of the reasons for withdrawing the Morgan boats was the difference in wages paid by that company and those paid on Norwegian vessels. He gives the following statement showing the monthly wages paid on a steamer of the Morgan Line (American, withdrawn from trade), as compared with the wages paid on a Norwegian steamer, both employed in the banana trade between Nicaragua and the United States:

Crew.	Morgan steamer.	Norwegian steamer.
Captain	$150	$75
First mate	75	40
Second mate	50	25
Two wheelsmen	70	....
Sailors (4 on each steamer)	120	40
First engineer	125	50
Second engineer	75	35
Third engineer	60	....
Firemen (3 on Morgan, 4 on Norwegian)	150	60
Coal passers (3)	120	....
Carpenter	60	....
First cook	60	30
Second cook	40	12
Steward	60	....
Cabin boys (3 on Morgan, 1 on Norwegian)	60	8
Total monthly wages	1,275	375
Total number of crew	25	16

However reliable much that has been published in regard to banana farming may have been, when published, banana planters nowadays do not make the enormous profits mentioned in the reports of a few years ago. In the Bureau of the American Republics Handbook of Nicaragua, the following appears:

> A plantation of 40 manzanas (about 69 acres) will, during and after the second year, produce about 54,000 bunches. The lowest price paid for bananas, for some years past, was 37½ cents per bunch, which would give an annual value for the crop of $20,250, or more than double the expenditure for purchase of land, clearing, cultivating, gathering the crop, and all expenses to the end of the second year.

The annual yield per acre, according to these figures, would be 782 bunches, worth $293.25.

I have no knowledge respecting either the yield or prices in other banana-producing countries, but certain it is that these figures do not at present hold good in Nicaragua.

Considering the cheapness of land and labor, however, it seems almost incredible that all the profits in growing bananas at 40 centavos (18.72 cents in United States currency) should be eaten up by an export tax of a cent or two a bunch. If it be true that with this tax the banana industry in Nicaragua could not live, it would seem as if it might collapse at any time, tax or no tax.

At 40 centavos per bunch, 296 bunches (the average yield per acre) would bring $55.41 (United States). Assuming, however, that one-third of the bunches would bring but 20 centavos each, the total sum realized would be $49.33 per acre. Deducting $13.49, the cost of labor and provisions per acre, a balance remains of $35.84.

Considering that barns are not needed, and that no agricultural implements to speak of are employed, $35.84 per acre after the payment of all labor and provisions is apt to strike most persons as being rather profitable returns.

Ten years ago, many dealers believed that the sale of bananas in the United States had almost reached its limit. According to a report made in May, 1886, by Mr. J. H. Bostwick, inspector of customs at New York, 2,097,493 bunches of bananas were imported into New York in 1885. Figures showing the receipts of bananas at other United States ports in 1885 are not available here, but it is evident that the trade has grown materially. Bennett, Walsh & Co., of New York, place the importation of bananas into the United States in 1895 at 16,720,127 bunches, or 5 bunches to every 21 persons.

The cultivation of sugar cane, ramie, etc., has been much talked of in Bluefields, but up to this time no serious attempt has been made to crop anything but bananas. During the month of April, 1897, products of the soil exported from Bluefields were 173,000 bunches of bananas, 5 crates of okra, 2 boxes of oranges, and 400 pineapples.

I inclose herewith a letter from Mr. E. W. Perry, who has been ten years in Central America. He has made a study of banana statistics, and his letter is worth reading.

The profits figured out by Mr. Perry can not be made at Bluefields, but it seems reasonably certain that bananas on the Bluefields River pay much better than many crops in the United States.

I would not advise any man having a comfortable home in the United States to sell his home property and engage in banana farming in Nicaragua. There are many persons, however, whose circumstances might be bettered by the change, especially if they should settle in Nicaragua in colonies, and thus insure the establishment and support of their own schools and churches.

Wages in the country are miserably small, and without money enough to engage in business or to buy and clear land and enough left to keep him for a year or two, no American should settle in Nicaragua unless, perhaps, he should be promised steady employment in an American colony. I believe, too, that it would be unwise for any American to invest in banana or other lands in Nicaragua without first visiting the country and making a thorough examination.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *May 15, 1897.*

MR. PERRY TO CONSUL O'HARA.

Mr. THOMAS O'HARA,
San Juan del Norte, Nicaragua.

DEAR SIR: You will perhaps have noticed that the statements of some folk do not hang well together. For example, Bluefields banana growers told me that "there is not a cent of profit in bananas; we lose money on every bunch we grow." There is some difficulty in finding an agreement between these assertions and the statements you made in your report on the banana industry of Bluefields; therefore I send this to you.

I have been, during the last ten years, in constant pursuit of trustworthy data about the cost, the yield, the income, and the profits of banana growing. In this, I have had experiences like those met in trying to get information about a branch of agriculture in the United States. Those who gave the information on which the general averages were based denounced these averages as wholly erroneous. Some declared that they were too high, and would mislead; others were equally sure that any fool could get better results than those stated as being the general average result. I have no doubt that banana growers will do the same with regard to the following figures; but they are correct, nevertheless, unless my informants deliberately misstated the case to me and to others. You will see that this is scarcely possible, for I have collated, analyzed, and averaged statements covering the experiences of hundreds of planters in various parts of tropical America, reports made by consuls and other officials, by dealers in bananas, by planters themselves, and by writers for newspapers, magazines, and cyclopedias, and other publications, and I have thus found that the general averages of the cost of clearing, planting, cultivating, and harvesting bananas and the yield and the income of banana plantations along the Central American coast from Colon to Belize, for the last ten years, have been as shown below, not including the price of land: Cost, $25.11; yield, 301 bunches; average price, 35 cents; income, $104.56 per acre. This is equal to a cost of $62.05, a yield of 744 bunches, an income of $258.38 per hectare, and, of course, the same average price per bunch—from which it appears that the general average profit of the business has been $79.45 per acre, or $196.33 per hectare. The prices quoted as having been paid for this fruit along this coast during the period mentioned ranged from 35 cents to $1.25 per bunch.

It may not be amiss to add here that I have taken the manzana as being equal to 10,000 square varas, the vara as being 836 millimeters (nearly), and the manzana, therefore, as equal to 1.727 acres.

You are welcome to use this in any way. It is possible that the records of the last years will give lower averages; but it is also possible that prices will be considerably above the average hereafter, in event that the fruit crops of the United

States should be less bountiful than they have been of late, or in case the markets of Europe should take bananas freely. I have been told that shipments of bananas from Costa Rica brought £1 each bunch in the London market last year.

Very respectfully,

E. W. PERRY.

MARCH *5, 1897.*

BANANA TRADE OF COLOMBIA.

Referring to my report of May 15, in relation to bananas, I have the honor to inclose herewith a clipping from the Bluefields Recorder of May 22, 1897, relative to the banana trade of Bocas del Toro, Colombia. The Colombian dollar is worth but 80 centavos in Nicaragua, at which rate bananas bring 37.44 centavos (18.72 cents in United States currency) per bunch.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *May 29, 1897.*

BANANA TRADE OF BOCAS DEL TORO, COLOMBIA.

[From a correspondent.]

The banana trade of Bocas del Toro this season is at its acme, never having been so bright and brisk for many a year, and the planters are satisfied with the prices currently obtained, *i. e.*, firsts, $1, and seconds, 50 cents (silver). Of the last, only 20 or 25 per cent is shipped. The fruit is plentiful and of very good quality.

There are no less than twenty-four ships engaged in the trade, which make this a port of call every month, taking from 15,000 to 25,000 bunches each of choice fruit either to Mobile or New Orleans.

We can boast of a planters' association which contributes to a very large degree to give the proper value to our staple product. This association has two steamers under charter; nevertheless, it gives every facility to other vessels calling for fruit, supplying all new comers with whatever fruit they may require.

The success of the Bocas del Toro banana trade is mainly due to the careful and judicious management of our planters, who have minimized to the lowest degree the expenses of working their plantations, and this has given them an independence which does not appertain to most planters in other localities, besides the care observed by them in the selection and classification of the fruit, as well as the mode of shipment from barges to the steamers. During this operation, the utmost care is taken that the fruit be not bruised* or otherwise, causing the incipient stage of deterioration, and this slight amount of vigilance, looked upon with a jealous eye by the parties interested, is rewarded by a fair price, remunerative both to the planter and the exporter. Hence it is our fruit commands a higher price in most markets than that of our neighbors.

The planters receive cash for their fruit, each steamer bringing an ample supply of funds to purchase the quantity she is able conveniently to carry. Hence every steamer takes away a full load, and, naturally, the advantages to all concerned are obvious.

---

*As printed in inclosure.

The above is a picture in the rosiest of tints, yet the note does not appear to us to be strained. The question therefore arises, why Bluefields, with advantages of no mean order, with a river navigable for more than 40 miles, with its banana plantations advantageously situated on either side of its bank, should differ from Bocas del Toro in the results attained there—that is, a bright trade, equally remunerative to the grower of fruit and the middleman, through whose instrumentality it finds its way in the markets of the United States? Surely, we ought by now to be in a position to compete with Bocas del Toro in the banana trade and command the same prices obtained there. If not, why not? Apparently there is a screw loose somewhere.

PUBLIC LANDS IN NICARAGUA.

My report of the 15th ultimo gives the prices of public lands in Nicaragua. Such prices have been increased. I inclose herewith copies and translations of the decrees of May 21 in relation to public lands.

THOMAS O'HARA,
Consul.

SAN JUAN DEL NORTE, *June 3, 1897.*

[Translation.]

PUBLIC LAND DECREES.

The President of the State, in the exercise of his powers, decrees:

ARTICLE 1. The simple holders of national land must give notice thereof within sixty days, as, in the absence of such notice, they will lose their preferential rights to the allotment of such lands.

ART. 2. Should the preferential rights be lost according to the foregoing article and the lands be allotted to any other person than the holder, the person to whom the allotment may be so made shall be obliged to pay unto the said holder the value of the improvements made by him on the lands after a fair valuation by appraisers.

ART. 3. The present law shall be operative from the date of its publication, and all laws contrary hereto are repealed.

The President of the State, in the exercise of his powers, decrees:

ARTICLE 1. The basis of the price for each manzana (1.727 acres) of the public lands is as follows: Two dollars (93.6 cents in United States currency) for grazing lands, $3 ($1.404 in United States currency) for arable or agricultural lands, $5 ($2.34 in United States currency) for arable lands capable of irrigation, and $1 (46.8 cents in United States currency) additional for each manzana of whichsoever class of lands above referred to upon which are growing woods suitable for building, dye, and cabinet purposes.

ART. 2. Two-thirds of the established prices in the foregoing article shall be paid in cash and the remainder in legally liquidated and recognized documents of public credit.

ART. 3. The accountant-general will issue to the revenue officers the necessary instructions for the cancellation of such documents.

ART. 4. The present law is operative from the date of its publication, and all laws contrary hereto are repealed.

RECENT LEGISLATION IN HONDURAS.

I have the honor to report that the annual session of the Congress of this Republic was adjourned on the 10th of April. On account of discontinuance of mails, I have not heretofore had an opportunity to make any report in regard to its acts of importance. The following are those which will be of most interest to the Department:

(1) A concession granted to New York capitalists for the completion of the interoceanic railroad from Puerto Cortez to Amapala. The Government celebrated the contract with the Honduras Syndicate, of New York. The syndicate is obligated to arrange the foreign debt, has the right to establish a national bank, and has control of the custom-houses of the Republic for a term of years. The syndicate has to put up certain guaranties in a short time. As soon as it is apparent that the enterprise is likely to be carried through, I shall make a full report in regard to the concession.

(2) A concession granted to Washington capitalists for the construction of an electric railroad (Fryer system) from Puerto Cortez to Truxillo. The concession is granted to the American Honduras Company, of Washington. The company has to make certain deposits in the nature of guaranties. When it seems probable that the road is to be built, I shall forward a copy of the concession and translation of same.

(3) An act making certain changes in the tariff law and an act making the cultivation and sale of tobacco free. Heretofore the latter has been a Government monopoly. I inclose copies and translations of these laws.

(4) A concession to American capitalists to establish a wagon road and express line from Puerto Cortez to Tegucigalpa, and thence to Amapala.

WM. M. LITTLE,
Consul.

TEGUCIGALPA, *May 11, 1897.*

[Decree No. 119.—Translation.]

CHANGES IN TARIFF OF HONDURAS.*

The National Congress decrees:

ARTICLE 1. There is established for the appraisement of merchandise which may be imported into the State a twelfth class, with appraisement of 2 pesos per pound, gross weight.

---

* The original tariff law, with its eleven classes, to which reference is made in this decree, is published in the Handbook of Honduras, issued by the Bureau of the American Republics, the classes being given at the end. Since the publication of the original law, duties have been increased, first, 20 per cent on the original amount, and then 30 per cent on this total. In place of these two separate increases, the new law provides that all goods imported shall be subjected to an additional tax of 30 per cent over and above the original duties and warehouse dues.—W. M. LITTLE.

ART. 2. In the appraisements established, the following modifications are made:

(1) Bottled wine and beer of every quality is taken from the second class and transferred to the third class.

(2) Wine and beer of every class in barrels, demijohns, or any other kind of vessel, except bottles, is taken from the second class and transferred to the fourth.

(3) Liquors, strong or sweet, such as alcohol, brandy, whisky, wormwood, rum, gin, mistela, chartreuse, bitters, etc., and champagne, when it comes in bottles and does not exceed 22° Carthier, are taken from the fourth class and transferred to the sixth. Champagne above the grade mentioned shall be appraised in proportion.

(4) Liquors, strong or sweet, such as alcohol, brandy, whisky, wormwood, rum, gin, etc., when they come in barrels, demijohns, or other vessels than bottles, and do not exceed 22° Carthier, are taken from the fourth class and transferred to the eighth. Exceeding this grade, they shall be appraised in proportion.

(5) Pantaloons, vests, jackets, coats (frock, sack, and cutaway), cloaks, and whatsoever other similar piece of clothing made for the exterior dress of men, of wool or linen, are taken from the eighth class and transferred to the ninth.

(6) Saddles, halters, saddle pockets, pistol holsters, bridle reins, girths, martingales, cruppers, and other fixtures are taken from the ninth class and transferred to the eighth.

(7) Ivory balls for billiard tables, when they come without tables; jewelry, ornaments, precious stones and jewels, articles of gold and silver and those which contain something of these metals, watches of whatsoever material, empty boxes of plush, satin, or leather, prepared for placing watches or jewels; silk, crude or mixed with other material, manufactured in whatsoever form, when the principal part is silk, are taken from the eleventh class and transferred to the twelfth.

(8) Cigarettes of every class, including also cigars, are taken from the tenth class and transferred to the ninth.

ART. 3. The importation of aguardiente (rum, such as that made in the country), rum, whisky, brandy, gin, and ordinary anisic liquor is prohibited, the Government alone remaining empowered to import and sell them.

ART. 4. All merchandise that may be imported shall pay 100 per cent in addition to the appraisement and warehouse dues established.

ART. 5. The present law shall begin to rule the 1st of August of the present year, but that provided in article 4 shall only have effect from that date in case of there not having been deposited on the 25th of May the guaranty stipulated in the contract with the Honduras Syndicate in regard to arrangement of debt, bank and railroad. In case the guaranty is deposited, the said article 4 shall only have effect from the 1st of October in advance, in case of the failure of fulfillment of that stipulated in the contract.

[Decree No. 114.—Translation.]

ABOLITION OF TOBACCO MONOPOLY IN HONDURAS.

The National Congress decrees:

ARTICLE 1. The monopoly of tobacco in the State is abolished; in consequence, it is permitted, without any limitation, to plant, cultivate, reap the profits of, prepare, and export said plant.

ART. 2. From the day this law begins to rule, the Executive power is authorized to sell the existing supply of tobacco and cigars at a feasible price.

ART. 3. This law shall begin to rule, in regard to the planting and exportation, the 1st of next August; and, in regard to the abolition of the monopoly, the 1st of December of the current year.

A NEW RAILWAY IN VENEZUELA.

I have the honor to forward a Spanish copy, with translation, of a contract made between the Minister of Public Works of the United States of Venezuela and Mr. Eleuterio Morales, of Caracas, for the construction of a railroad, with side branches, connecting the city of Caracas with Guatire and such places as are not included in the concession made to the Central Railroad Company of Venezuela.

E. H. PLUMACHER,
Consul.

MARACAIBO, *May 17, 1897.*

[Translation.]

CARACAS-GUATIRE RAILWAY.

The Minister of Public Works of the United States of Venezuela, sufficiently authorized by the President of the Republic and with the approval of the council, for the first part, and Mr. Eleuterio Morales, domiciled in this city, of the second part, have agreed upon the following contract:

ARTICLE 1. The National Government grants to Eleuterio Morales, who binds himself to form a company with sufficient capital, the exclusive right to construct and exploit a railroad that will unite the city of Caracas with Guatire, crossing through Guarenas and such places that are not included in the concession made to the Central Railroad Company of Venezuela.

ART. 2. The concessionary can begin work of masonry and ground moving for the line at any of its places, according to convenience.

ART. 3. The railway works are to commence within one year, counting from the date in which this contract is approved by Congress, and it shall be opened for public services by sections of 10 kilometers in three years, counting from the day on which work was commenced.

ART. 4. The interruptions of the work caused by unforeseen circumstances or by force, legally proven, will give the contractor a right to a length of time equivalent to that lost.

ART. 5. The railway shall be of but one track, with a width between rails of 75 centimeters, a maximum declivity of 3 per cent, and a minimum radius of its curves of 25 meters (85 feet). The materials employed in the construction shall be of the best quality and works of art* according to the latest advancements in science.

ART. 6. The concessionary must submit the plans and sketches of the said railway to the consideration of the Department of Public Works, and in order to proceed to the construction of the various sections must also submit plans and sketches and also those of works of art.*

ART. 7. The constructor can place to public services those sections of the road as they are completed, and, after the Government has declared them ready for public traffic, he can charge a proportional freight according to distance, with the consent of the Government.

---

* The consul has literally translated the Spanish text. In these cases, "works of art" refer to depots, buildings, bridges, etc., as distinguished from the grading and laying of the rails.

ART. 8. The contractor can establish branches, under the terms of this contract, without prejudice and with the previous consent of the Government.

ART. 9. It is also granted to the concessionary, without indemnification, the right to take from the national forests, without unnecessary destruction, timbers for the construction and preservation of the line and its branches for forty years, the term of this privilege.

ART. 10. The concessionary has a right to obtain, with preference to any person or company, under fulfillment of legal formalities, all mines that may be found on the line of the railway and its branches.

ART. 11. The Government shall grant to the concessionary portions of public lands on both sides of the line to the extent of 500 meters (1,640 feet) in front and depth, alternating with equal portions which the Government will reserve. In regard to private grounds or lands, the Government will take them for public use, and the concessionary will satisfy their value according to the estimate and in conformity with the laws now in force regarding expropriation.

ART. 12. The tariffs of freight shall be fixed between the Government and concessionary.

ART. 13. The concessionary is bound to convey free all of the correspondence dispatched by the post-offices of the Republic.

ART. 14. The national employees, troops, and military on service, when they travel on commission of the Government, in ordinary cars, shall be subject to a reduction of 50 per cent from the tariff; the same reduction shall be made on all Government freight.

ART. 15. The concessionary has the right to introduce free of custom-house duties the materials, tools, and other articles necessary for the construction, preservation, and exploitation of the line, its buildings, and telegraphic and telephonic lines, according to the judgment of the Government and to the code of finance and other laws in regard to the subject.

ART. 16. The company shall be exempt from taxes, dues, or contributions, created or to be created, except those of stamps.

ART. 17. The Government will recognize and grant to the concessionary the perpetual and irrevocable right of property on the railroad which he may construct under this contract.

ART. 18. The Government will not allow any other person, syndicate, or company to establish a railroad for the time of forty years between the places connected by this railway, according to this contract.

ART 19. The present contract can be transferred, in parts or totally, to one or more companies, or to another person, with the previous consent of the Government, but in no case to a foreign government.

ART. 20. As security that the works of construction will begin within the term fixed, as per article 3 of this contract, the concessionary will leave on deposit, fifteen days after this contraet has been approved by Congress, the amount of 50,000 bolivars. This deposit shall be subject to the sixth article of the law on railroads, and shall be returned to the contractor as soon as one-third of the line between Caracas and Guatire is finished.

ART. 21. All doubts and controversies which may arise in the comprehension and execution of this contract shall be decided by the competent courts of the Republic, according to law, and in no way can they be reasons for an international claim.

FOREIGN WINES AND BEER IN URUGUAY.

WINE.

Outside of the wines grown in this Republic, the following quantities were imported for consumption during the year 1896.

Imports of wine into Uruguay during the year 1896.

Countries.	Champagne.		Fine wines.		Common wines.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Liters.		*Liters.*		*Liters.*	
Spain	....	....	16,954	$9,574.59	12,230,439	$1,467,652.68
Italy	1,764	$1,155.20	16,408	6,760.89	4,690,303	562,836.36
France	26,162	17,148.39	12,791	7,474.66	3,388,536	406,624.32
Portugal	....	....	27,416	14,268.16	24,732	2,967.84
Belgium	8,505	5,675.15	920	515.88	1,872	224.64
England	3,684	2,440.72	8,807	4,634.62	23,585	2,830.20
Holland	....	....	....	....	30,950	3,714.00
Germany	542	378.30	1,980	1,159.44	19,032	2,283.84
United States	....	....	....	....	9,349	121.88
Argentina	420	273.60	1,500	837.69	299,374	35,924.88
Brazil	....	....	91	52.20	17,472	2,096.64
Chile	....	....	264	168.96	464	55.68
Total	41,077	27,071.36	87,131	45,447.09	20,736,108	2,487,332.96
Total in gallons	10,885	....	23,089	....	5,495,018	....

This, including the native production, gives a wine consumption in Uruguay of a little over 7 gallons per capita.

The duty on wines is as follows: Common wines of all grades are valued at 12 cents per liter and pay 6 cents per liter duty in casks. Fine wines, such as Rhine, port, Xeres, madeira, muscatel, burgundy, etc., are valued at 50 cents per liter and pay 23 cents per liter duty in casks. Wine in bottles of all kinds, including champagne, pay 23 cents per liter; smaller bottles than 1 liter, in proportion.

BEER.

The beer industry of Uruguay has not made much progress, notwithstanding the high protective tariff placed on this article with the view of its development, as the following statements will show. The total consumption of beer (as near as figures can be obtained) amounts to 3,029,442 liters (say, about 757,360 gallons), of which 3,000,000 liters are of home production.

The duties on imported beer are as follows: In bottles up to half a liter, 8 cents (gold) per bottle; up to 1 liter, 16 cents per bottle; kegs or barrels, per liter, 16 cents (gold). For beer manufactured in the country a tax of 3 cents in gold [per liter?] is levied by the Government.

There is only one brewery in operation in the whole Republic. Two other spacious and well-equipped breweries formerly operated under great expectations, on account of the high protective tariff, have stopped brewing.

The quality of the beer produced here is not such as to induce a more general consumption; hops and malt seem to be the lesser part thereof. The retail price to consumers is 40 cents (gold) per bottle, common size. The imported beer is sold mostly in half-liter bottles and is retailed at 30 cents per half liter. The quantity imported is shown in the accompanying table.

Imports of beer into Uruguay during the year 1896.

Imported from—	Quantity.	Value.
	Quarts.	
England	6,958	$3,487.66
Germany	12,562	2,210.72
Belgium	1,836	380.76
United States	668	136.70
Chile	114	23.43
Argentine Republic	51	5.42
Brazil	19	2.02
Total	32,208	6,246.71

Under the circumstances, it is not astonishing that the consumption of wine is so much greater than beer. Perhaps if a good quality of beer could be produced here at a reasonable price, the consumption of beer would assume greater proportions.

FDGAR SCHRAMM,
Consul.

MONTEVIDEO, *May 5, 1897.*

GLASS AND GLASSWARE IN URUGUAY.

For the benefit of the glass manufacturers of the United States, I submit the subjoined tables showing the glass and glassware imported into Montevideo during the years 1895 and 1896.

The duty on all window, plate, and hammered glass for skylights is 31 per cent, 5 per cent, and 2½ per cent, a total of 38½ per cent, on fixed valuations by the Government as follows: Plain glass is supposed to contain and have for duty purposes 9 by 9½ meters square in boxes, valued at $3.20 per case; the same of double glass, $7.20 per case; colored glass, same as above, $10 per case; fluted, clouded, or shaded glass, called milk or dull, same size as plain glass,

$5 per case; same, double glass, $10 per case; photograph glass, up to 25 centimeters square, $2.50 per 100 pieces; larger than 25 centimeters square, $5 per 100 pieces; hammered or skylight glass is valued at 10 cents per kilogram.

Glassware is subject to the same tariff of 31 per cent, 5 per cent, and 2½ per cent on a fixed governmental valuation on the various articles manufactured of glass as shown in table No. 2. Glassware is divided into three classes, the first embracing all molded and common glassware, the second fine glass and half-cut or crystal, and the third actual crystal, or cut glass.

In the market, window or plate glass is sold by the box containing 100 feet each; hammered or skylight glass, by the piece, according to its kind and as wanted. Mirror glass comes silvered and is styled and classed as mirrors. No glass is silvered here.

The terms for the sale of glass and glassware are about the same as those generally ruling in all other classes of goods imported into this country. As a rule, six months is about the time given to purchasers, against their notes, unless special agreements are stipulated between buyer and seller.

As stated in previous reports, notes of this kind can be, and are, discounted by the banks here as long as parties are considered good. Banks generally have a surplus of money on hand and the discounting of such paper seems to be a part of their business. It appears to be a safe and profitable business for them.

There are a number of first-class houses dealing in glass and glassware who, as a rule, as I am informed, discount their own paper.

1. Imports of glass and glassware.

From—	1896.		1895.	
	Quantity.	Value.	Quantity.	Value.
Window and plate glass.				
Belgium ....boxes...	10,689	$35,481	7,456	$24,164
England ....do.....	505	2,239	234	879
Germany....do.....	625	1,984	1,804	6,240
France....do.....	461	1,499	....	....
Argentine Republic ....do.....	220	746	234	879
Spain....do.....	30	96	....	....
Brazil ....do.....	2	6	....	....
Total....do.....	12,533	42,051	9,836	32,440
Hammered glass for floor or skylight use.				
Belgium ....kilograms...	20,735	1,990	32,675	3,220
Germany....do.....	....	....	4,301	414
England ....do.....	2,745	263	....	....
France....do.....	520	52	....	....
Argentine Republic....do.....	445	45	....	....
Total....do.....	24,445	2,350	36,976	3,634

1. Imports of glass and glassware—Continued.

From—	1896.		1895.	
	Quantity.	Value.	Quantity.	Value.
General glassware.				
Belgium	....	$58,370	....	$50,838
Germany	....	44,035	....	63,037
England	....	8,457	....	5,436
United States	....	3,360	....	2,985
France	....	3,068	....	2,225
Argentine Republic	....	1,672	....	1,794
Italy	....	536	....	246
Spain	....	88	....	39
Total	....	119,486	....	126,600
Grand total	....	163,887	....	....

2. Government valuation of glassware for tariff purposes.

Articles.	Molded and common glass.	Fine glass, half crystal, and cut.	Pure crystal and cut glass.
Chandeliers, for gas or kerosene:			
2 lights ... each	$15.00	$15.00	$15.00
3 lights ... do	20.00	20.00	20.00
4 lights ... do	26.00	26.00	26.00
5 to 6 lights ... do	35.00	35.00	35.00
7 to 10 lights* ... do	55.00	55.00	55.00
Sugar bowls, all styles and shapes ... per dozen	1.80	3.00	5.50
Platters or waiters, all styles and shapes ... do	2.00	2.00	5.00
Globes or shades:			
Lamp, all styles and shapes ... do	5.00	5.00	5.00
Lamp, street or light-house ... each	3.00	3.00	3.00
Bottles or decanters:			
Water, wine, or table use ... per dozen	2.50	6.00	14.00
Liquor ... do	1.50	3.00	7.00
Bottles or demijohns, for oils ... do	1.20	2.00	3.60
Bottles:			
Black or white, for beer, liquor, or wine, as used by the manufacturers thereof ... per dozen	†.30	....	....
Stone or clay—			
Of all kinds, common, for water, etc ... do	.30	Free.	Free.
Fancy worked and ornamented ... do	.70	.70	.70
Candle holders, arm shape, fancy:			
1 light ... each	3.00	3.00	3.00
2 lights ... do	5.00	5.00	5.00
3 lights* ... do	7.00	7.00	7.00
Candlesticks, all kinds ... per dozen pair	5.00	5.00	10.00
Jelly and preserve dishes, all kinds ... per dozen	2.50	4.80	8.00
Glasses, tumblers, or mugs, for beer, water, or champagne, per dozen	1.00	1.00	3.00
Glasses for wine and liquors, all kinds ... per dozen	.60	.60	1.80
Reservoirs for filling lamps ... do	3.00	3.00	3.00
Dishes for all kinds of confections or sweets, etc ... do	4.00	6.00	12.00
Fruit stands, all kinds, one or more over each other ... do	10.00	15.00	24.00
Egg glasses, all kinds ... do	.40	.40	1.00
Pitchers:			
Water and other ... do	4.00	7.00	14.00
Milk, with or without covers, small ... do	1.80	3.00	6.00

* For more lights in proportion.

† The duty is only 15 per cent, 5 per cent, and 2½ per cent.

2. *Government valuation of glassware for tariff purposes*—Continued.

Articles.	Molded and common glass.	Fine glass, half crystal, and cut.	Pure crystal and cut glass.
Sets for bedrooms (6 pieces, not including spittoon)........per set...	$3.00	$3.00	$5.00
Liquor sets, with platter or waiter of glass or wood, and up to 14 glasses........per dozen...	6.00	12.00	24.00
Flower pots, all kinds........per dozen pairs...	6.00	10.00	20.00
Water basins or bowls, all kinds........per dozen...	4.00	7.00	14.00
Glass shades:			
Imitation porcelain or china........do......	1.50	....	....
With reflectors, imitation porcelain or china........do......	2.40	....	....
Plates, up to 25 centimeters in diameter........do......	1.00	1.60	2.40
Cheese plates, with globes, for table use........do......	6.00	10.00	20.00
Reflectors, all kinds........do......	3.00	....	....
Saltcellars, single or double........do......	.60	....	2.40
Spittoons:			
Simple, without legs........per dozen pairs...	6.00	....	15.00
Fancy, with legs........do......	10.00	....	24.00
Dishes for pickles or other things:			
Without legs........per dozen...	5.00	8.00	....
With legs........do......	7.00	12.00	....
Lamp chimneys, all kinds........do......	.50	....	....
Chambers:			
Without handles and covers........do......	.60	.60	1.80
With handles and without covers........do......	1.20	1.80	3.60
With handles and covers........do......	1.80	3.60	8.00

All other glassware, of whatsoever nature, comes under any of the above-named headings.

EDGAR SCHRAMM,
Consul.

MONTEVIDEO, *April 4, 1897.*

GRAPE CULTURE IN URUGUAY.

Uruguay is divided into nineteen departments, with a population of about 800,000 inhabitants. The principal industry of the country is cattle raising, followed by sheep and horse raising. Farming and horticulture play a secondary role, notwithstanding the fact that the soil and climate are favorable to all kinds of agricultural pursuits.

The lands are mostly in the hands of large and comparatively few owners, who seem satisfied with living from the revenues which these large estates, stocked with cattle and sheep, yield.

Wheat does splendidly and yields excellent results, but, for the reasons stated, is comparatively little grown—just about enough to supply the country, although during some very prosperous years a little has been exported. Of feed stuffs, alfalfa leads and grows abundantly.

The only subject which, of late years, has received special attention in the agricultural line is grape growing, which has proved quite successful for those who had means and enterprise to devote thereto.

The grapes are very good, and, in some parts of the Republic, even excellent, for table use, as well as for making wine.

The following is the acreage planted, so far as inspected and under the supervision of the Government, and the quantity of wine produced therefrom in the various departments of the Republic during the year 1896:

Canelones.—There are in this Department 342 hectares (845 acres) planted with vines, which contain 1,064,408 stocks or plants in production. Plants in growth and not yet producing number 393,021, outside of 270,201 plants of American origin. For replanting purposes, there are 46,000, and 388,200 of American origin (phylloxera proof), giving a total of plants in growth of 2,161,830. The producing plants yielded 559,230 kilograms (1,146,421 pounds) of grapes, and there have been produced a total of 209,600 liters (221,484 quarts) of wine. The above acreage planted is owned by thirty proprietors.

Florida.—There are only seven vineyards in this Department, owned by as many proprietors, which cover an area of 112¼ hectares (280 acres), with a total of 321,416 plants in production, 169,500 in growth not yet producing, and 400 plants of American origin, making a total in growth of 581,216 plants. From the stocks in production, there have been gathered 67,700 kilograms (138,785 pounds) of grapes, and 41,100 liters (43,566 quarts) of wine were produced during 1896.

Durazno.—In this Department, there are only 53 hectares (132 acres) cultivated and planted in grapes, with 100,000 plants in production, 165,000 in growth not yet producing, outside of 3,500 American plants and 2,000 plants for replanting purposes, making a total of 270,500 plants in growth, from which there have been gathered 27,600 kilograms (56,580 pounds) of grapes, which produced 17,500 liters (18,550 quarts) of wine. The acreage planted is owned by four proprietors.

San José.—In this Department, there are only four vineyards, owned by four proprietors, covering an area of 39¼ hectares (97 acres), containing 180,000 plants in production, 15,000 in growth and to be replanted, and 35,000 Americans, a total of 230,000 plants. The plants in production yielded 50,150 kilograms (102,500 pounds) of grapes and 20,045 liters (21,677 quarts) of wine. In this Department, preparations for extensive growings are made.

Maldonado.—In this Department, there is only one proprietor and one vineyard, covering an area of 250 hectares (625 acres), with 600,000 stocks in production, which have yielded but very little so far, being new, and the weather unfavorable; besides, there are 220,000 American plants and 120,000 plants for replanting purposes in this plantation, making a total of plants growing of 940,000. Grapes gathered only gave 12,000 kilograms (24,600 pounds), which produced 8,000 liters (8,480 quarts) of wine during 1896.

Montevideo.—In this Department, there are 558½ hectares (1,395 acres) planted in grapes, owned by 128 proprietors. The number of stocks or plants in production is 1,721,034; in growth, 552,035; and 313,800 American plants not yet producing. There are, also, for replanting purposes, 321,700, and 1,244,050 American plants (phylloxera proof), making a total of growing plants of 4,152,619. The production of grapes in 1896 was 1,862,071 kilograms (3,817,245 pounds), which yielded 789,010 liters (836,350 quarts) of wine.

Salto.—In this Department, there are 987½ hectares (2,467 acres) in cultivation under grapes, owned by 141 proprietors. There are 2,962,300 stocks or plants producing, 787,200 in growth, and 37,700 Americans (phylloxera proof); for replanting purposes, 60,000, and 901,700 Americans, giving a total of growing plants of 4,748,400. The producing plants yielded 1,649,552 kilograms (3,381,582 pounds) of grapes, from which 721,045 liters (764,307 quarts) of wine have been made.

The foregoing departments comprise the territory from whose reports these statistics have been gathered, and of which the following is a résumé:

Under cultivation, 5,855 acrès, containing 6,949,158 producing plants, 1,981,756 growing plants, 845,601 Americans not yet producing, and 508,700 and 2,699,830 Americans (phylloxera proof) for replanting purposes, giving a total of 12,985,045 plants, from which 4,230,306 kilograms (8,672,212 pounds) of grapes were gathered in 1896, which yielded 1,826,290 liters (1,935,867 quarts) of wine.

In addition to the foregoing, the following departments have under cultivation the acreage and number of plants set opposite their names:

Departments.	Acreage.	Number of plants in cultivation, growing, and yielding.
	*Hectares.**	
Calonia		1,100,796
Artigas	232	908,200
Rocha	164¼	131,540
Soriano	304	2,105,900
Rio Negro	117	382,593
Cerro Largo	91	58,842
Minas	54	270,000
Tacuarembo	8	40,000
Treinta y Tres	14	70,000
Flores	6	30,000
Paysandu	114	402,396
Total	1,104¾	5,500,267

* 1 hectare=2.471 acres.

The vine culture of the Republic has lately been put under the charge of a commission, whose duty is to prevent the introduction of the phylloxera, and, where it exists, to stamp it out as speedily as possible. The commission is also charged to render each year a detailed account of its work and findings. The vineyards infected are ordered to be destroyed, or such parts thereof as are infected. So far, the entire output of native wine is consumed in the Republic from year to year. For this reason, it has not yet been ascertained how good or bad the quality might be if allowed to age.

EDGAR SCHRAMM,
Consul.

MONTEVIDEO, *May 5, 1897.*

NOTES.

Prohibition of Margarin in Martinique.—Consul Tucker writes from Martinique, June 15, 1897:

A law has just been promulgated regarding the manufacture and sale of oleomargarine, which is calculated to drive the American product entirely out of this market. This law was passed by the Senate and Chamber of Deputies at Paris, France, on April 16, 1897, and promulgated in this island May 29, 1897.

Unless this matter be made known through the agency of the Department, great loss will ensue to our shippers and manufacturers, as the margarin will be seized here upon its arrival for violation of the law. There are at present a great number of cases held in the custom-house which arrived here before the promulgation of the law and which can not now be disposed of.

The substance of the law is as follows:

It is forbidden to designate or expose, sell, import, or export under the name of butter, with or without any qualification, any product which is not exclusively made of milk or cream, or both, with or without salt or coloring (article 1).

All alimentary substances other than butter, whatever may be their origin, extraction, or composition, which have the same appearance as butter and are used in the same way, must be called margarin. Margarin must never receive any coloring matter (article 2).

It is forbidden to any one manufacturing or preparing butter to make or hold or let any one else make or hold margarin on his premises. This applies to consignees, merchants, or retailers of butter. Margarin can be introduced into markets only in places designated by the municipal authorities. The quantity of butter contained in margarin can not exceed 10 per cent (article 3).

Premises in which margarin is deposited must bear a notice to that effect. Barrels, cases, and all receptacles of margarin must have on every side, in visible and indelible letters, the word "margarin" or "oleomargarine." The materials employed in making the product must be indicated by labels or invoices from the manufacturers or retailers. In the wholesale business, the case must also have in visible letters the name and address of the merchant. In exports of margarin, the manufacturer is authorized to add to his trade-mark that of the purchaser, on condition that his mark shall bear in visible letters the word "margarin." When retailed, margarin must be sold in the shape of cubic loaves, marked, and having the wrappers marked with the word "margarin" and the name and address of the vendor (articles 5 and 9).

In accounts, bills, bills of lading, railway receipts, contracts of sale and delivery, and all other documents concerning trade in margarin the goods must be expressly designated. Inspectors have the right to enter premises where margarin is made or sold and take samples for examination. They can also take samples in the custom-houses and railway stations (articles 12 and 13).

Infringement of the law will be punished by imprisonment of from six days to three months and by fine of from 100 to 5,000 francs ($19.30 to $965). Carriers or forwarding companies who infringe the law will be liable to a fine of from 50 to 500 francs ($9.65 to $96.50) (article 16).

The law applies to Algeria and the colonies (article 24).

Tax on Rubber Shipped from San Juan del Norte.—Consul O'Hara writes from San Juan del Norte, June 14, 1897:

Referring to my dispatch of April 1, relative to the collection of an export tax on rubber shipped from Nicaragua,* I would report that the British consul at this port has just received a communication from the Nicaraguan Minister of Finance, advising him that the governor of San Juan del Norte had been instructed to make no further attempt to collect such tax on rubber shipped from the port of San Juan del Norte.

Opening for Machinery in Belize.—The following has been received from Consul Morlan, dated Belize, June 16, 1897:

The municipal board of Belize is contemplating the erection of an electrical lighting plant for the streets and public buildings of this city, and I believe there is an opening for an American plant, if tenders are made in competition with English companies. A telegraph line of about 200 miles is also to be erected, and I presume a telephone line will be used in connection with it. An American machine for the manufacture of ice has been contracted for and will shortly be in operation. The proprietor intends to run a brewery and cold-storage warehouse in connection with the ice machine.

Light Beers and Ales in Chile.—Consul Dobbs writes from Valparaiso, May 5, 1897:

During the last three years, several consignments of light beers have arrived in Chile from the United States, and, to the best of my knowledge and belief, have been disposed of for about one-half to two-thirds their actual value by the persons receiving them. There is no market here for lagers or Pilsner of either American or European manufacture; but every now and then, some would-be promoter of American goods, either here or on his way here, discovers that he can secure a consignment by convincing some manufacturer that he can revolutionize the trade in this article by having a few dozen bottles here as samples. The fact is, the beer made here is almost, if not quite, as good as either American or German, and is a little heavier, which latter reason makes it all the more suited to the demands of the people. The duty on foreign beer is 3.3 cents per half bottle, and the price it would have to sell for to give any profit would be about 40 centavos (14½ cents), while the native beer sells for from 15 to 20 centavos (5¼ to 7¼ cents) per half bottle and 2 to 2.50 pesos (72 to 90 cents) per half dozen bottles. Even if foreign beer could be sold at the same price, I doubt if there would be a market for it. In regard to ales, the situation is quite different. It is my opinion, as the quality of ale made in the United States compares so favorably with the English or Bass ales and is so much cheaper, American ale would soon become popular if placed on sale here. A few experimental consignments from our manufacturers should at least not result in a total loss, as has been the case with lager or Pilsner. The duty is 79 cents per dozen large bottles, two small bottles being counted as one. No ale is manufactured in the country.

---

*Published in CONSULAR REPORTS No. 202 (July, 1897), p. 348.

Coal Mines in Colombia.—Consul Smyth writes from Cartagena, May 3, 1897:

I would report that C. F. Z. Caracristi has lately informed this office of the discovery and location of certain coal deposits within the territory of this consular district. Work has been in progress with varying success for the past six years, under the direction of the above-named gentleman and his brother, A. L. Z. Caracristi, in coal mines in Colombia. Mr. Caracristi gives the following statement:

> The coal fields are situated in the Department of Bolivar, Republic of Colombia, near the Sinu River, in what is known as the Savannahs, 8 to 12 miles distant from the Bay of Cispata, on the seacoast. Approximate distances from adjacent cities are as follows: Cartagena, 48 miles; Barranquilla, 120 miles; Santa Marta, 168 miles; Colon, 240 miles; Port Limon, 410 miles; Jamaica, 480 miles; New York, 1,840 miles.

These fields, according to Mr. Caracristi, comprise 215,000 acres of land, and he thinks they contain 300,000,000 tons of coal. This entire territory is held under a Spanish title or grant by the San Andres Indians, an independent native tribe consisting of not more than 11,000 persons. These Indians are peaceable and industrious. Cattle raising is their principal occupation, from 75,000 to 100,000 head being sold by them annually. Mr. Caracristi now holds, in behalf of a company which he represents, a lease of the coal lands described for a term of forty-eight years from these people.

The coal itself, a specimen of which has been placed in this office, appears to be of good quality. The thickness of the veins is from 1 foot to 10 feet clear. The layer formation is a sandstone of decomposed slate shales, shale, and slate in layers of from 1 inch to 1 foot in thickness.

Mr. Caracristi says that the cost of getting out the coal will be as follows, per ton: Mining, 40 cents; handling, 20 cents; transporting to the sea, 60 cents; total, $1.20.

Coal is also found on the coast below Cispata Bay. This is of a good quality, anthracite and bituminous. As this latter deposit is at a considerable distance from the principal Colombian ports, it is not considered advisable to work it for the present.

American Horses for Germany.—The following has been received from Vice-Consul Simon, dated Hanover, June 1, 1897:

For about two years, efforts have been made to introduce American horses into Germany. At first, great difficulties had to be overcome. The accommodations on the ships were not good; a large percentage died during the voyage, and the rest arrived in such bad condition that the whole lot had to remain in quarantine for several weeks. The freight and other expenses of transportation were high, and last, but not least, the horses were not the kind needed in Germany and hence were not sold at profitable prices. Now, however, some ships of the Hamburg and Bremen lines are fitted out expressly for this service. The freight is lower—$25 per horse, I am told—and the man attending the horses is taken over and returned free of charge. The accommodations are so perfect that the horses arrive here in good condition. The loss on the voyage is reduced to from 2 to 4 per cent. The result is they are permitted to be landed without quarantine. The number of horses sent to Hamburg is much larger than the number sent to Bremen. The unloading at the former port is more convenient, as they can go from the ship directly to the pier, while in Bremerhaven or Nordenhamm, the ports for the larger Bremen steamers, the horses have to be lightered ashore.

The American horses which sell most readily in the German market are thickset working animals of the percheron breed, with short, specially heavy legs. Until lately, this variety was mostly imported from Belgium. The home demand there, however, has become so great that horses of full growth are at once bought, leaving only young colts to be exported. Danish horses, large numbers of which are imported into Germany, are used for tramways and stages; they are not so heavy as the percheron breed.

The hoofs of the American horses lately imported are pronounced better than those of the Belgian horses.

Buyers of American horses have made two complaints: They say that the animals, not being accustomed to the food generally given to horses in this country (oats and wheat bran), lose flesh, and that it is several months before they are again in good condition. If American breeders, who intend to export horses to Germany, should feed the animals some months before they are shipped, as well as on the passage, with oats instead of corn, the animals would remain in good condition. Buyers further complain that the majority of the horses are not broken to harness.

American horses have been sold here lately at prices ranging from $225 to $300 a head.

The demand in Germany is, next after the class above named, greatest for showy, high-stepping horses, in contrast to the American fast trotter; the supply has of late come from Hungary.

Hanover at one time was pronounced to be the best horse market in Germany. It has since lost that standing, though it would be well for importers by way of Hamburg or Bremen to keep an eye on this market.

Army horses are almost exclusively raised in Germany, being bought when young—2 to 3 years old—and kept in the several supply stations (Remonte-depots) until fit for service. They are regarded as needing at that age a special diet; the training, on the other hand, is given in the various regiments, a year or somewhat less being allowed for this purpose.

Projected Naval Station in the Falkland Islands.—Under date of April 16, 1897, Consul Miller writes from Port Stanley, Falkland Islands:

Within the past few months, investigations of the harbor here have been made by the colonial government with the view of erecting a pier extending to a depth that will enable any vessel to discharge her cargo without the aid of lighters. It appears to be a certainty that this work will begin in the near future, and when completed will greatly assist in a more rapid and cheaper discharge of freights.

Colonel Lewis, of the royal engineers, under the direction of the Imperial Government, has been making soundings and surveys here with a view to the establishment of a naval station on the opposite shore from Port Stanley, with a pier leading thereto. This station would render communication with the outer world much more frequent, and would be of great assistance in towing distressed vessels into safety. The presence of ships of war here for the past six months clearly demonstrates this, they having brought in two merchant vessels, and, through the services of their divers, temporarily repaired one of them in a short time, and at reasonable rates. This work could not have been done at all without the importation of divers, as the divers here are not considered competent, and charge very high for their services besides.

In commemoration of the "longest reign," the erection of a hospital suitable for this port is being considered. This, I believe, will be of marked benefit to enfeebled sailors who may be dropped here, as there are no such accommodations in these islands.

Importation of Dogs into Great Britain.—Consul Boyle writes from Liverpool, June 14, 1897:

As it is not unusual for citizens of the United States to bring dogs over with them to this port, I respectfully call the attention of the Department to the provisions of an order of the British board of agriculture of May last, which goes into effect on the 15th of September next. I inclose copies of the order. It provides that dogs can not be landed without license, and says:

> Any application for a license is to be made in writing to the secretary, board of agriculture, 4 Whitehall place, London, S. W., and is to be accompanied by a statement signed by the owner of the dog to which the application relates or by his agent authorized in writing for this purpose containing the following information, namely: The description of the dog, stating, so far as possible for purposes of identification, the particulars of its breed, sex, age, and color, the country from which it is proposed to be brought, the port at which it is proposed to be landed, and the place to which it is proposed after being landed to be moved for the purposes of such detention and isolation as may be required by the board, and also the route by which it is proposed to be moved to such place of detention.
>
> The board may insert in any license authorizing the landing of a dog such conditions as they think necessary or desirable for the following purposes: For prescribing and regulating the detention and isolation of the dog, by and at the expense of its owner, for any period not exceeding six months at a place to be provided for that purpose by such owner and to be described in the license; or for regulating the movement of the dog to such place of detention and its movement during the period of detention prescribed by the license.
>
> A dog landed under the authority of such a license shall be detained and isolated in accordance with the conditions of such license, and shall not be moved in contravention of any such condition.
>
> An applicant for a license for the landing of a dog will be required to satisfy the board that proper and suitable arrangements can be made for such detention and isolation of the dog as appears to the board to be necessary or desirable.

European Emigration.—Consul Monaghan writes from Chemnitz, June 18, 1897:

The discontent that causes emigration, of which Germany had formerly a large share, is apparently diminishing. In the five years

1891–1895, Germany sent out 402,600 souls; Austria-Hungary, 272,500; Switzerland, 24,000; Italy, 751,200; France, 27,000; Great Britain and Ireland, 978,600; Holland, 17,500; Belgium, 14,100; Denmark, 37,700; Sweden, 139,500; Norway, 61,100; Spain, 177,000; Portugal, 137,800. In 1896, Great Britain and Ireland sent out 161,939; Italy, 187,908; while Germany, in 1895, sent only 37,500, and in 1896, 33,000. Since 1885, Italy's stream of emigrants has grown larger and larger, till to-day it is enormously swollen, all parts of the Kingdom, especially the southern sections, contributing. Great Britain, because of her harbors, maritime interests, numerous foreign colonies and possessions, and because of peculiar conditions in Ireland, feeds constantly the emigration tides. Besides Great Britain and Italy, Switzerland, Denmark, Sweden, Norway, Spain, and Portugal have more emigrants in comparison with the population than Germany. Strange to say, Norway, Sweden, and Denmark have the largest proportion; Spain and Portugal have fourth and fifth places. The Scandinavian countries send three or four times as many as Germany, France, Holland, and Belgium. From France, very few people emigrate. Most of these emigrants go to the United States. How assimilable are they? How many of them make for what is highest and best in our civilization? In the imaginations of our European wellwishers, there is a belief that the battle for life now going on in the United States is not too desperate for us to refuse to take these immigrants; others, wishing us not so well, see in these streams the foes of self-government.

German Exports to Japan in 1896.—Consul Monaghan writes from Chemnitz, June 26, 1897:

Germany reports great gains in her 1896 business with Japan. Her exports in textiles went up from 5,000,000 marks ($1,190,000) in 1895 to more than 9,000,000 marks ($2,142,000) in 1896. The amount of sugar sent increased by 1,000,000 marks ($238,000). Of printing paper, she sent in 1895 8,000 double hundreds; in 1896, 20,600 double hundreds. Gains were noted in other kinds of paper, aniline dyes, woolen yarns, etc. The total exports for 1896 were 36,000,000 marks ($8,568,000); in 1895, they were 26,000,000 marks ($6,188,000). This gives Germany fourth place among the nations selling to Japan. England's flag covered exports and imports to and from Japan of 160,000,000 yen, half of Japan's total of foreign trade. Germany's flag covered 38,000,000 yen; Japan's, 33,000,000 yen; France's, 26,000,000 yen; the United States, 12,000,000 yen; Norway, almost 8,000,000 yen. From Hamburg alone goods worth 31,500,000 marks ($7,497,000) were shipped; in 1895, only 22,800,000 marks ($5,426,400); and in 1894, 18,100,000 marks ($4,237,800). I can not refrain from calling the attention of paper makers to Germany's increase in the amount of printing paper sent to Japan—from 8,000 double hundreds to 20,600 double hundreds in one year. This, too, at a time when our paper makers are beating Germany and England in English printing establishments. Recently, we won contracts for 15,000 tons in Great Britain. There is little or nothing that Japan or China needs that our manufacturers can not supply.

German Exports to Brazil.—The following has been received from Consul Monaghan, dated Chemnitz, June 26, 1897:

Germany's exports to Brazil are declining. In 1895, she sent goods worth 75,000,000 marks ($17,850,000); of these, not less than 36,000,000 marks were in iron wares, cottons, woolens, and hosiery. Last year (1896), of cottons, passementerie, and hosiery, she sent 21,500 double hundreds, against 31,500 double hundreds in 1895; woolen cloths, etc., 6,380 double hundreds, against 10,170 double hundreds in 1895; woolen hose, 645 double hundreds, against 1,755 double hundreds in 1895; wire nails and other iron wares, 79,165 double hundreds, against 101,270 double hundreds in 1895; guns, rifles, etc., 186 double hundreds, against 4,078 double hundreds in 1895. These losses are so great that they are not compensated by the increases in iron rails (178,260 double hundreds in 1896, against 95,171 double hundreds in 1895) and iron wires (103,590 double hundreds in 1896, against 89,650 double hundreds in 1895). Much if not most of the articles shipped hence to Brazil and all South America might be made and sent by us. Give this Empire harbors like those of Boston, Salem, Providence, New London, New Haven, Portland, Portsmouth, etc., and they will teem with the world's shipping. Not one of the great harbors that she has to-day—Hamburg, Bremen, Kiel, or Stettin—could compare, naturally, with most of those named above.

Electric Street Railway at Ghent.—The Department has received the following communication (given to the newspaper press July 10, 1897) from Consul Morris, dated Ghent, June 28, 1897:

Referring to my report relative to the proposed electric street railway at Ghent, published in CONSULAR REPORTS, No. 201 (June, 1897), p. 319, and to the plans and specifications subsequently forwarded by me to the Department of State, I would say that the date for the final award of the franchise has been postponed until August 2, 1897, at noon. Furthermore, the local authorities have published a statement showing the approximate valuations of the operating stock as follows:

Description.	Valuation if put up at sale.	Valuation in use.
Horses	$7,150.65	$8,029.28
Cars	13,553.33	15,586.44
Miscellaneous and furniture	1,029.66	1,132.62
Real estate	9,727.20	15,826.00
Total	31,460.84	40,574.34

The annual receipts upon which the 4 per cent to the municipality is to be paid are estimated at $61,760. Further details can be obtained by communicating with the burgomaster of Ghent.

Report upon Prevention of Storms.—Consul Stephan writes from Annaberg, May 24, 1897:

"It appears from American newspaper clippings, which I received two days ago, that I have been universally credited with a report upon a rain-preventing experiment in Austria. I beg to state that I have never transmitted to the Department a report of this kind, and I presume that a slight mistake has occurred somewhere."

The report referred to by Consul Stephan is that made by Consul Germain, of Zurich, dated April 14, 1897, entitled "Prevention of hailstorms by means of explosives," printed in CONSULAR REPORTS No. 201 (June, 1897), p. 321.

Preservation of Fresh Grapes and Seed Potatoes in Italy.—Consul-General Jones writes from Rome, June 24, 1897:

A recent bulletin of the School of Agriculture of Scandicci, Italy, describes experiments made by Professor Marchi for the keeping of grapes fresh during the winter. A certain quantity of grapes (comprising different qualities) was hung up in a cool and dry place, all damaged berries having been previously removed; a second lot was packed in dry, pulverized peat in wooden boxes. At the end of four months the grapes that had been hung up had become decayed and had dropped off; on the other hand, those that had been packed in the boxes were found to be in fine condition. This is, therefore, a simple and economical method. Another one consists in gathering the bunches with a good bit of stem attached and immersing their tips in bottles containing water and pulverized charcoal. Experiments were also made for preserving seed potatoes by using corn shucks, sawdust, peat, and very dry sand. The three first-mentioned substances gave the best results, while the sand proved a failure.

Bicycle Trade in Malta.—Under date of June 3, 1897, Consul Kennedy sends from Malta a letter in answer to a request by a Syracuse, N. Y., dealer for information in regard to bicycle dealers in Malta. The letter, a copy of which was sent to the dealer on June 18, 1897, is as follows:

> Your favor of April 28 was duly received and I take the earliest opportunity to furnish you with the desired information, viz, the names of dealers in bicycles in Malta and their financial responsibility.
>
> Two houses here deal in bicycles—J. B. White and W. Harding. They handle only the English machines, the prices of which, retail, range from £8 to £16 ($38.93 to $77.86). Both houses stand well in financial and mercantile circles.
>
> It is useless for me to dwell upon the merits or demerits of the English bicycles, with which, I feel assured, you are entirely familiar. That they are inferior to the American bicycle is generally acknowledged, except by the English.
>
> There are no American bicycles in Malta. I hope to see them introduced here and I feel assured that they will be popular.

Revision of Tariff Valuations in India.—Consul Masterson sends from Aden, under date of June 14, 1897, a copy of the revision of tariff valuations for India, which took effect May 13, 1897. The new duties are:

No. in tariff schedule.	Names of articles.	Unit.	Present valuation	Revised valuation.
6	Provisions, oilmen's stores, and groceries:		*Rupees.**	*Rupees.**
	Sago	Per cwt.	8.80	7.80
8	Sugar:			
	Loaf	do	21.00	16.00
	Crystallized, beet	do	13.00	11.80
	Crystallized and soft, from China	do	13.00	12.80
11	Drugs, medicines, and narcotics:			
	Cassia lignea	do	22.00	26.00
15	Metals, unwrought and wrought, and articles made of metals:			
	Iron:			
	Bar, plate, and sheet, Lowmoor	Per ton	310.00	368.00
	Flat, square, and bolt, including Scotch	do	94.00	100.00
	Pig	do	60.00	56.00
	Rice bowls	Set of ten	6.00	5.00
	Do	Set of six	3.00	2.80
	Sheets and ridging, galvanized	Per cwt.	10.00	9.00
	Swedish—			
	Flat, square, and bolt	Per ton	142.00	148.00
	Nail rod	do	142.00	150.00
	Tin, block	Per cwt.	72.00	60.00
85	Pitch, tar, and dammar:			
	Tar, coal	do	3.00	4.00

*The rupee, on April 1, 1897, was valued at 22.2 cents in United States currency.

Possible Steamship Service between New York and Tangier.—Consul Burke sends the following from Tangier, June 21, 1897:

In view of the opportunity for developing considerable trade between New York and Morocco if steamers touched at this port, I wrote during the past winter to two New York agencies of steamship lines to the Mediterranean to ascertain if it would not be possible and profitable for the companies to include Tangier in their itinerary. The agents of one of the lines informed me it would not be to their advantage, especially as the larger number of passengers by their line did not care to touch at Tangier. The agents of the other line wrote me they would refer my letter to Messrs. Gastaldi & Co., the general agents at Genoa. I also wrote other parties in the United States, asking them to be good enough to interest themselves in the matter, as I felt sure that if steamers touched regularly at this port both from and to New York it would result in our gaining a strong commercial foothold in this country. Whether my efforts in this direction accomplished anything I do not know. I am rejoiced, however, to be able to report that the steamer *Sarnia* of the Atlantic Line to the Mediterranean, of which Gastaldi & Co. are general agents, is advertised to touch at this port on July 2, en route to New York. I understand this is an experiment only; but there is no doubt in my mind that if we have even a monthly service for a few months it will be found necessary, on account of the increase of trade, to establish a bimonthly service for this port. All interested in getting a share of this market for our manufactured products should give aid and encouragement to the proposed venture, in order to render it a success. I have written Messrs. Gastaldi & Co., of Genoa, assuring them that whatever can be done by me shall be done to aid the undertaking. Now, whatever is shipped to the United States goes by way of England, Germany, and France. Whatever is brought from the United States must come through the same countries and must of necessity occupy a much longer time in transit. Probably the freight charges are higher when goods are brought in this roundabout way. If the company decides to have a monthly service for this port, our manufacturers and merchants should put commercial travelers in this field at once with samples of their products. A sample house should be opened, with a man at the head who is active, enterprising, and shrewd. He should be a man who knows the country and the people, not only of Tangier, but all the coast towns. The whole of Morocco would be his field, and our people would reap benefit. I sincerely hope that the experiment by the Atlantic Line Company in touching at this port will prove successful for them and beneficial in opening a new channel of trade for us, though it may not be very extensive.

Consular Reports Transmitted to Other Departments.—The following reports from consular officers (originals or copies) have been transmitted since the date of the last report to other Departments for publication or for other action thereon:

Consular officer reporting.	Date.	Subject.	Department to which referred.
W. H. Robertson, Hamburg.	April 20, 1897	New dry dock at Hamburg..	Treasury and Navy Departments.
N. B. Ashby, Dublin..........	Feb. 27, 1897	Irish consumption of maize..	Department of Agriculture.
T. M. Stephan, Annaberg...	April 9, 1897	Foreign lumber in Germany.	Do.
T. E. Moore, Weimar.........	Mar. 27, 1897	Lumber in Germany............	Do.
H. C. Morris, Ghent...........	April 6, 1897	American products in Belgium.	Do.
Geo. Keenan, Bremen........	April 3, 1897	Examination of horses at Bremen.	Do.
W. H. Robertson, Hamburg.	Mar. 12, 1897	Dried beer grains as cattle food.	Do.
G. W. Bell, Sydney............	May 10, 1897	American sheep in Australia.	Do.
Eugene Germain, Zurich...	April 27, 1897	Movement of agricultural products in Switzerland.	Do.
H. G. Huntington, Castellamare di Stabia.	June 2, 1897	Walnut crop in southern Italy.	Do.
E. Schneegans, Saigon......	June 2, 1897	Rice market........................	Do.
Charles de Kay, Berlin......	June 17, 1897	German work on fruit and fruit-tree culture.	Do.

Hebrew Colonies in Palestine.—Consul Germain writes from Zurich, June 17, 1897:

The settlements founded by Russian and Roumanian Jewish exiles in the last decade were at first confined to Samarin, to-day called Sichrôn-Ja'akôb, and Rosch-Pinah, in Galilee. Like all new enterprises, this one was subjected to many drawbacks. The colonists, formerly merchants or artisans, were inexperienced in their new occupation, and had no one to advise them. Mistakes in the selection and cultivation of the soil, and subsequent despondency, were the natural consequences. Charitable gifts from the outside improved the situation. To-day, twenty-two villages, with an area of about 92,000 acres, have sprung up and flourish. The agricultural school Mikweh-Israel, with an area of 593 acres, which serves as an experimental station and model farm, governs the colonies. The net earnings of this school are already sufficient to support all the teachers, as well as the one hundred pupils. The largest settlement is the village Sichrôn-Ja'akôb, which, with an area of 4,942 acres, has 1,000 inhabitants, paved streets, a school house in charge of five teachers, one synagogue, one physician, and a pharmacy. The colonists raise principally vegetables and wine grapes, and at the same time, as a side issue, plant fruit trees and spend their spare time on bee culture. They are also planting mulberry trees, with a view to silkworm culture in the future. The village of Rischol l'Zion, with an area of 22,239 acres, possesses already 1,500,000 vine stocks (which in 1894 produced about 210,000 gallons of wine), 20,000 mulberry trees, 10,000 fruit, almond, walnut, fig, and other trees. Each colonist possesses a stone house, with a vegetable and flower garden adjacent thereto, a horse and wagon, a cow, and an assortment of domestic fowls. In the other villages, similar conditions prevail. At Gadrah, a settlement of former Russian students, a distillery for the manufacture of brandy is already in operation. All in all, the prospects are now good and encouraging.

FOREIGN REPORTS AND PUBLICATIONS.

Commerce of Bulgaria in 1896.—A report in the Consulaire Verslagen, Amsterdam, June 9, 1897, contains the following:

The total value of the imports into Bulgaria during 1896 was 68,598,983 francs ($13,239,603); the exports amounted to 100,238,397 francs ($19,346,010). The appended table gives the imports and exports according to countries:

Countries.	Imports.		Exports.	
	Francs.		*Francs.*	
Austria-Hungary	19,897,500	$3,840,217	2,660,502	$514,376
Great Britain	16,332,253	3,152,124	28,227,628	5,447,932
Belgium	2,148,926	414,742	7,747,025	1,494,275
Germany	7,853,080	1,525,644	20,372,237	3,931,841
Greece	316,786	63,139	268,897	51,897
Italy	2,419,655	466,993	1,883,674	363,549
Roumania	2,152,179	415,370	400,104	77,220
Russia	3,530,682	681,421	73,739	14,231
United States	201,229	38,837	9,710	1,874
Servia	1,004,977	193,960	86,127	16,622
Turkey	8,811,558	1,700,630	20,662,669	3,987,895
France	3,019,707	583,808	12,482,463	2,409,113
Netherlands	34,826	6,721	548,174	105,817
Switzerland	670,967	129,496	3,000	579
Sweden and Norway	41,740	8,055	....	....
Other countries	162,918	31,443	4,812,454	928,803

Comparing this table with the figures for 1895, it is found that there has been a decrease in the imports from England, Roumania, Belgium, Italy, and Servia, and a decrease in the exports to England, Russia, Germany, Belgium, Italy, and Greece. The exports to Austria-Hungary, Turkey, and Roumania have increased. The principal articles of import were textiles, machinery, metals, furniture, leather wares, oils, and liquors. Grain was the chief article of export; woolen passementerie and attar of roses may also be mentioned. The exports of cattle are increasing. Leather is the only article imported from the United States in sufficient quantities to be mentioned.

Commerce of Portugal in 1895.—The Recueil Consulaire, Brussels, Vol. XCII, 1896, has a report from Lisbon, of which the following is a summary:

The imports for the first seven months of 1895 reached the value of 23,254,000 milreis ($25,114,320), an increase of 812,000 milreis ($876,960) over the corresponding period of 1894. The exports amounted to 15,223,000 milreis (16,440,840), which was 1,711,000 milreis ($1,847,880) more than for the seven months of 1894. It will be seen that the commerce of Portugal is progressing; but the advance would be much more rapid and sure if the country would abandon her policy of protection and make more commercial treaties with foreign countries. This applies especially to wine, which, in consequence of the high duty it must pay on leaving the country, has seriously diminished in export. Cork is another important branch of Portuguese industry. Extensive docks are now in process of construction at Lisbon, and will probably be completed in 1899. The quays will be a mile in length, and the total cost of the work will be 15,000,000 francs ($2,895,000).

Details of Portuguese Commerce in 1894.—From the Annales du Commerce Extérieur, Paris, 1897, No. 5, the following statistics are taken:

The country from which Portugal imported most largely in 1894 was the United Kingdom. The importations amounted, in round numbers, to 9,800,000 milreis ($10,584,000); the United States came next, sending some 5,700,000 milreis ($6,156,000) worth; Germany was third, with 4,000,000 milreis ($4,320,000). France exported to Portugal to the value of about 3,700,000 milreis ($3,996,000); Spain, 2,900,000 milreis ($3,132,000); Brazil, 2,400,000 milreis ($2,592,000); Norway and Sweden, 1,300,000 milreis ($1,404,000); Belgium, 1,100,000 milreis ($1,188,000); Portuguese colonies, 1,000,000 milreis ($1,080,000). Italy, the Netherlands, and Russia followed in order. The principal articles imported were:

Articles.	Value.	
	Milreis.	
Alimentary products (wheat and sugar the most important)	9,743,000	$10,522,440
Coal	1,900,000	2,052,000
Cotton (tissues, thread, and raw)	4,458,000	4,814,720
Wool (tissues and raw)	2,197,000	2,372,760
Silk and tissues thereof	800,000	864,000
Machinery	760,000	820,800
Skins	830,000	896,400
Horses and mules	370,000	399,600

In the export trade, the United Kingdom received the largest amount, Brazil was second, Spain third, Germany fourth. The United States imported only a small amount. The following table gives the details (in round numbers):

Countries.	Value.	
	Milreis.	
Russia	700,000	$756,000
Sweden and Norway	300,000	324,000
Germany	2,000,000	2,160,000
United Kingdom	6,000,000	6,480,000
Netherlands	390,000	420,000
Belgium	1,000,000	1,080,000
France	700,000	756,000
Spain	2,500,000	2,700,000
Italy	200,000	216,000
United States	500,000	545,000
Brazil	5,900,000	6,420,000
Portuguese colonies (African and Asian)	2,200,000	2,370,000

The principal articles exported were:

Articles.	Value.	
	Milreis.	
Wines	9,700,000	$10,470,000
Copper ore	2,000,000	2,160,000
Cork (raw) and articles of	3,000,000	3,240,000
Animals (including horses and mules)	1,600,000	1,728,000
Fish	800,000	860,000
Sardines	180,000	190,000
Figs	300,000	324,000
Wool	190,000	205,000

The total value of the exports amounted to 23,900,000 milreis ($25,800,000) and the imports to 35,600,000 milreis ($38,400,000).

Commercial Condition of Switzerland in 1896.—The Schweizerische Handelsstatistik, Berne, 1897, gives a statement from which it appears that the total value of importations into Switzerland in 1896 was 993,859,185 francs ($191,814,822), an increase of 78,006,769 francs ($15,054,706) over the preceding year. The exports reached the value of 688,261,035 francs ($132,834,379), which showed an increase of 24,900,860 francs ($4,805,865) over 1895. The principal articles imported were:

Description.	Value.	
	Francs.	
Chemicals	19,344,383	$3,733,465
Wood	30,789,971	5,942,464
Shoes and leather	22,231,431	4,290,666
Machines and vehicles	27,717,923	5,359,559
Iron	59,995,223	11,579,478
Precious metals and minerals	114,518,259	22,102,113
Articles of food and drink and tobacco	274,808,165	53,037,975
Cotton	63,336,589	11,223,961
Silk	120,513,885	23,259,179
Wool	54,246,214	10,469,519
Clothing	23,915,326	4,615,657
Animals	52,273,576	10,088,799

The principal articles exported were:

Articles.	Value.	
	Francs.	
Coloring materials	14,605,821	$2,818,927
Watches and clocks	100,363,493	19,370,154
Machines and vehicles	30,408,775	5,868,893
Metals (precious) and minerals	15,122,021	2,918,550
Articles of food and drink and tobacco	80,349,316	15,507,417
Cotton	135,003,417	26,055,659
Silk	199,580,212	38,218,981
Wool	18,244,948	3,521,274
Animals	14,264,191	2,752,988

The commerce of Switzerland with the principal countries in 1896 was:

Countries.	Imports.			Exports.		
	Francs.		*Per cent.*	*Francs.*		*Per cent.*
Germany	304,970,622	$58,859,328	30.69	172,260,751	$33,246,325	25.03
Austria-Hungary	71,412,602	13,782,632	7.18	40,413,159	7,799,742	5.87
France	177,612,458	34,279,204	17.87	81,016,009	15,636,099	11.77
Italy	137,297,605	26,498,437	13.82	39,163,498	7,558,645	5.69
Belgium	24,169,525	4,664,718	2.43	11,354,102	2,185,341	1.65
Russia	65,150,838	12,574,111	6.56	24,394,400	4,608,119	3.54
Great Britain	51,706,813	9,979,414	5.2	147,008,247	28,372,591	21.36
United States	39,258,221	7,576,876	3.95	70,514,895	13,609,374	10.25

From a comparison of the above figures with those given for 1895, it appears that there has been an increase in the imports from all the countries mentioned except Italy. France and Germany have gained the most, the former having exported nearly $8,000,000 worth more to Switzerland than during the previous year, and Germany over $6,000,000 worth more. Great Britain has gained over $800,000 and Russia $600,000. Austria-Hungary gained nearly $700,000. The United States gained about $80,000 and Belgium nearly $40,000. The imports from Italy decreased about $4,000,000 worth.

The exports also show an increase to all countries except to Italy and the United States. There is an advance of some $1,500,000 in the value of articles exported to Germany, about $200,000 in the exports to Austria-Hungary, $1,300,000 in the exports to France, $750,000 to Belgium, $3,200,000 to Great Britain, and nearly $500,000 to Russia. The exports to Italy are some $9,000 less than they were in 1895, and there is a decrease of nearly $4,000,000 in the exports to the United States.

Foreign Commerce of Finland in 1894.—From the Recueil Consulaire, Brussels, Vol. XCII, 1896, the following is taken:

The total value of imports into Finland during the year 1894 was 138,700,000 francs ($26,769,100), and the exports amounted to 136,000,000 francs ($26,248,000). The butter exported represented about one-fifth of this amount, and showed a large increase over the quantity exported in 1893. Wood and oats were also largely exported.

Production of Gold and Platinum in Russia in 1895.—The following is taken from the Bulletin de la Société de Géographie Commerciale, Paris, Vol. XIX, No. 5:

In the gold beds under the management of the Department of Mines, 2,372 poods (86,357 pounds) of gold were found in 1895. Over half this amount came from the territory of Irkoutsk, about one-fourth from Ural, and the remainder from Tomsk.

From the gold beds belonging to the Czar, 137 poods (5,017 pounds) were taken; of this amount, the larger part came from the district of Jourguine. About 10 pounds were found in Finland. It appears from these figures that the total production was 108 poods (3,900 pounds) less than the production for the preceding year.

Platinum is found in the Ural, in the districts of Perm, and in the mountainous regions of Verkhoutorski. Nearly 270 poods (9,735 pounds) were extracted during 1895, more than 1,750 pounds less than during 1894. This decrease was due to the rainy summer. Eleven pounds of iridium were found in the district of Orenburg.

Commerce of the Ivory Coast.—The Bulletin de la Société de Géographie Commerciale, Paris, Vol. XIX, No. 5, says:

The commerce of the Ivory Coast has been steadily increasing for a number of years. In 1894, the importations reached the value of 4,424,052 francs ($853,842) and the exportations 4,169,405 francs ($804,695). The principal articles exported in 1895 were (in round numbers):

Articles.	Value.	
	Francs.	
Palm oil	2,500,000	$473,000
Gold dust	630,000	121,600
Mahogany	500,000	96,500
Palm almonds	270,000	51,400
Rubber	420,000	81,000
Coffee	125,000	24,100
Ivory	22,000	4,200

Imports in 1895 were:

Articles.	Value.	
	Francs.	
Tissues	706,000	$136,000
Alcohol	100,000	19,300
Gin	250,000	48,250
Powder	250,000	48,250
Arms	195,000	37,600
Tobacco	190,000	37,000
Sea salt	90,000	17,500

England received three times the quantity of exports that were sent to France, and shipped goods in even larger proportion to the Coast. Gold dust is used as a medium of exchange by the natives. It is found in considerable quantities, averaging 216 grains to the ton. In 1895, the Akapless tribe were condemned, in consequence of a revolt, to pay a fine of 45,000 francs ($8,685). It was brought in less than two months. The gold dust is sold at the rate of 3 francs (58 cents) per gram (15.432 grains).

The export of woods is one of the sources of wealth to the colony. Mahogany, which is worth 50 francs ($9.65) per cubic meter when shipped, is sold in Liverpool for more than double that amount. The rubber is of inferior quality. Pineapples abound, and an excellent brandy can be obtained from them; cotton grows wild. The woven goods come from Manchester; the gin and alcohol from Hamburg and Rotterdam. Tobacco comes from America, via England. Both alcohol and tobacco are sold for double their cost price. Lagoons are the principal means of communication.

Roads are very hard to make. Unfortunately, the lagoons are not connected; thus Assinie is separated from Grand Bassam and the latter (this lagoon is nearly 75 miles in length) from Grand Lahou, etc. During the rainy season, the streams between the lagoons are navigable, and by enlarging the channels they could be used at all times of the year.

Rubber in Tonkin.—A correspondent writes to the Bulletin de la Société de Géographie Commerciale, Paris, Vol. XIX, No. 5, that he has discovered, after investigation, that a tree which grows abundantly in Tonkin is the same as the *Ficus elastica*, which is cultivated in Brazil, Bolivia, the Guianas, etc. There is a good opening, he thinks, for a new industry in Tonkin, especially as labor is cheap and easily obtained.

Industrial Condition of the Philippine Islands.—The Bulletin de la Société de Géographie Commerciale, Paris, 1897, Vol. XIX, No. 4, has an elaborate report on the Philippine Islands, from which the following extracts are taken:

> There are about 25,000 Europeans resident in the islands (the total population is 8,000,000), of course, not counting the troops. Some 12,000 are established in the capital, Manila, the center of the colonial government. English, Spanish, and German houses are engaged in trade, advancing money to the natives on their crops. Such business methods involve risks and necessitate large capital in the beginning, but the profits are immense. The land is fertile and productive, and lacks only intelligent cultivation. Abaca (manila hemp) is one of the chief sources of wealth of the country. Sugar cane does not give as satisfactory returns, owing largely to the ignorance of planters. The average production is 178,000,000 kilograms (175,186.96 tons), while that of Cuba is equal to 720,000,000 kilograms. The sugar goes almost entirely to Japan, England, and the United States. It is of poor quality and very cheap. The cultivation of tobacco is one of the most important industries, although it is capable of much greater development. In 1894, 180,010 piculs (119,977 tons) and 140,080,000 cigars were exported. The native coffee, although not equal to the mocha or bourbon varieties, has a fine aroma. It goes chiefly to Spain. Cocoa trees grow in abundance, and the oil is used for lighting houses and streets. The indigo is famous for its superior qualities. The inhabitants are apathetic to a degree that is noticeable even in these countries, where every one is averse to exertion. The women have long and slender fingers, remarkably fine and sensitive, and adapted to their work. The hats and cigarette holders they make and the articles they embroider are models of delicacy. Cotton spinning and work in bamboo are among the chief industries.

Condition of Uruguay in 1895.—The Recueil Consulaire, Brussels, Vol. XCI, 1896, has a report from the Belgian consul-general at Buenos Ayres. Among other details given, he says:

> The economic situation of Uruguay during the first nine months of 1895 shows a development of the productive forces of the country. The only element lacking in the prosperity of the country is a denser population. This is dependent upon

European immigration and increases slowly. During the first eleven months of 1895, there were nearly 4,000 arrivals, which may safely be considered permanent residents. In eighteen years, the growth has amounted to hardly 100,000. The rigor of the quarantines has naturally influenced this movement. Nevertheless, the land of Uruguay offers fine resources for agriculture, as well as for the industries. In 1894, the harvest from 840,117 bushels of seed sown was 14,814,768 bushels. The amount of wheat sown was 577,506 bushels and the product was 8,896,827 bushels, or a return of more than 15 to 1, or 42½ bushels per hectare (2.471 acres). The harvest of maize for the same period was even more remarkable. The return was at the ratio of 31 grains for 1, or 41¾ bushels per hectare—a production which nearly doubled that of the Argentine Republic.

The agricultural population in Uruguay comprises 10,853 landowners, 10,192 tenants of farms, and 10,963 persons working for wages; 36,497 plows and 113,160 oxen are employed. Over 6,000 acres are devoted to viticulture, and 15,695,319 vines have been planted. The production of wheat in 1894–95 amounted to 230,000,000 kilograms (226,383 tons), of which 11,000,000 kilograms were used for home consumption and for sowing, 80,000,000 kilograms were exported in grain, and 25,000,000 kilograms in flour. The surplus stock was 25,000,000 kilograms. The average price of wheat during the year was 1.80 gold piasters ($1.86) for 100 kilograms (220.46 pounds).

The production of maize during 1894–95 was estimated at 180,000,000 kilograms (177,155$\frac{5}{16}$ tons), of which 80,000,000 kilograms were exported. The average price was 85 centavos, and the total value of the production was about 1,530,000 gold piasters ($1,582,120).

The following table gives official figures relative to the exports of the principal agricultural products during the first nine months of 1895:

Exports.	Quantity.		Value.	
	Kilograms.	*Pounds.*	*Piasters.**	
Bran	3,165,894	6,979,541	31,658	$32,734
Lucerne	1,624,010	3,579,292	19,488	20,150
Millet	619,602	1,365,974	17,348	17,930
Wheat flour	16,142,475	35,587,701	552,969	571,769
Maize	38,660,516	85,230,973	463,263	479,013
Beans	409,899	897,049	14,048	14,825
Wheat	99,960,886	220,373,749	2,097,673	2,168,993
Other products	....	....	98,501	101,850
Total	....	....	3,294,959	3,406,987

* Gold.

The exports of wool, live animals, etc., are increasing; in 1895–96, there were 110,230,000 pounds of wool exported.

The railroads of Uruguay are in good condition. In 1895, there were 1,603 kilometers (995.05 miles) in exploitation. During the year, 745,976 passengers were carried and 676,011 tons of merchandise. The figures of the Northern Railroad, from which no definite statistics are obtainable, are not included in the above report.

Foreign Commerce of Uruguay in 1896.—The Revue du Commerce Extérieur, Paris, May 1, 1897, gives the following report:

According to official statistics, the commercial movement of Uruguay in 1896 differed little from that of 1895. The total imports and exports amounted to

$55,933,257.* The exports were $4,872,899 more than the imports. In 1895, there was a difference of over $7,000,000 in favor of the exports. The total customs receipts in 1896 were $10,261,829—$8,726,975 for import duties and $1,534,854 for export duties. These returns were some $360,000 less than during the preceding year. The export of agricultural products showed a decrease in 1896, the value being $2,018,989. This is doubtless due in part to the unpropitious weather which prevailed during the season. The principal products exported in 1896 were maize, wheat, and wheat flour. Linseed and bran (of which $59,000 and $76,000 worth, respectively, were exported) should also be mentioned.

Commerce of Santo Domingo in 1895.—The following extracts are taken from a report in the Recueil Consulaire, Brussels, Vol. XCII, 1896:

The total value of imports in 1895 amounted to 3,463,055 piasters ($3,324,532†), an increase of 564,402 piasters ($541,825) over the preceding year. The exports were valued at 1,764,057 piasters ($1,693,494). Sugar, coffee, cacao, tobacco, mahogany, cedar, and divi-divi are the chief articles of export.

The condition of agriculture is promising; not only is there a constant increase in production, but the quality of the products shows steady improvement. Capital is being largely invested, especially in the regions traversed by the Central Railroad. The Government grants all possible franchises and advantages. The movement of immigration, which has been marked since the war in Cuba, is encouraged in every way. Subsidies are accorded the immigrants, the acquisition of land is made easy for them, and other inducements for permanent residence are offered. The majority of the arrivals belong to the agricultural class, and are accustomed to work in the plantations.

Commerce of Ecuador in 1894.—The chancellor of the French legation in Ecuador sent to the Moniteur Officiel du Commerce, Paris, the following report, published on May 6, 1897:

On account of political troubles, the Government of this country has published no statistics; but so far as I am able to learn, the commerce of Ecuador showed a decrease in 1894. I give a table of imports according to countries for the years 1894 and 1893:

Countries.	1894.		1893.	
	Francs.		*Francs.*	
France	8,889,560	$1,715,685	10,410,060	$2,009,141
Germany	7,302,838	1,409,447	8,439,349	1,628,794
England	13,282,506	2,563,523	15,268,021	2,946,728
United States	8,361,597	1,612,788	10,025,701	1,934,960
Italy	521,100	100,572	593,180	114,483

This decrease in imports from all nations is due to the fact that the market was overstocked with supplies of previous years. The United States sends the largest quantities of goods, but the imports from England and France are of greater value.

---

* These figures are given, as in the French original, in dollars. The Uruguayan gold peso is probably meant. The value of the gold peso, according to the estimate of the Director of the United States Mint April 1, 1897, was $1.034.

† Taking the value given by the International Customs Journal, Brussels, June, 1891, as 96 cents.

There was a notable decrease in the exports of cacao, due in part to a disease called "mancha," which ravaged the plants during the year. The price fell from 83 francs ($16) per quintal (220.46 pounds) to 72 francs (13.89) per quintal in 1894. The total value of cacao exported during the year was 27,017,800 francs ($5,214,435). The exports of coffee, on the other hand, increased over 1,000,000 francs—the total exports being 5,183,500 francs ($1,000,415). Other exports were as follows (in round numbers):

Articles.	Value.	
	Francs.	
Raw hides	640,000	$123,520
Rubber	1,255,000	242,215
Vegetable ivory	1,845,000	356,085
Straw hats	775,000	149,575
Tobacco	112,000	21,616

Trade would be much facilitated in Ecuador if there were better roads. There is no direct means of communication between the northern provinces and the coast, and the transportation of baggage by means of mule teams is costly and slow; about 45 francs (nearly $9) per 100 kilograms (220.46 pounds) is charged. Apart from the principal road which connects Guayaquil to the capital via Babahoyo, and that leading from Guayaquil to Cuenca, the other routes are impassable in rainy weather. The railroad from Duran to Puente de Chimbo (59 miles) has been repaired, and the last 2 miles completed. A plan to continue it to Sibambe is under consideration, and it is thought that the Government will carry it out.

Imports into Ecuador in 1893.—The Moniteur Officiel du Commerce, Paris, May 6, 1897, has this report from the consul-general of France at Quito:

Chemical products.—There is no establishment for the manufacture of chemical products in Ecuador. In 1893, the imports amounted to 813,021 kilograms (1,792,386 pounds), with a value of 1,566,786 francs ($303,389). Pharmaceutical products, perfumery, and essences came from France, Germany, and England; aniline and other dyes, which are used in coloring the cloth made in the country, came from France and Germany, as well as chemical products, such as colors, cements, etc., used in the construction of buildings.

Glass and pottery.—There is no glass or pottery manufactured in Ecuador. In 1893, the imports were 765,553 kilograms (1,687,738 pounds), valued at 928,531 francs ($179,306). The imports were principally from France and Belgium. Germany furnished a few articles of a cheaper grade.

Iron and steel, hardware, tools, lighting and heating apparatus.—These articles must also be imported, although there are a few foundries where repairs are made. The lack of refractory materials is an obstacle to the development of foundries in this country. Iron and steel come principally from England. The United States furnishes most of the hardware, nails, locks, tools, etc., used in Ecuador. Household utensils in enameled iron find a ready market, as they are employed universally and there is little danger of breaking them. Kerosene or petroleum lamps are used for lighting. Ordinary lamps are imported from the United States and Germany and the better varieties from France. On account of the climate, there is little demand for heating apparatus. The industrial machinery (machines for spinning and weaving, for use in mills and chocolate manufactories) comes from France. The importations in 1893 were: Hardware and iron, 3,802,258 kilograms (8,382,457 pounds), valued at 4,264,027 francs ($822,957); machinery, 286,564 kilograms (631,757 pounds), valued at 648,392 francs ($125,139).

Furniture.—The furniture in use is mostly manufactured in the country. Easy chairs are imported from Germany and Austria and art furniture from France.

Articles of jute, hemp, linen, cotton, woolen, and silk.—Ecuador possesses factories for spinning and weaving woolen, cotton, and linen goods. The chief ones are situated at Chillo, near Quito. Water is the motive power. The products find a ready market in the country, and are exported to Colombia, Venezuela, Peru, and Bolivia. Impermeable cloth and other woven products, such as belts, carpets, etc., are manufactured. Nevertheless, the importation of different tissues amounted to 2,815,088 kilograms (6,202,143 pounds), valued at 15,272,762 francs ($2,947,643). The United States sent calicoes and cottons, and France, wools and silks.

Clothing, hats, and foot wear.—These articles are mainly manufactured in the country, but 19,127 kilograms (42,167 pounds), worth 342,596 francs ($66,121), of shoes and shoemakers' articles were imported from France and Germany; 135,156 kilograms (297,964 pounds), valued at 1,716,838 francs ($331,348), of clothing came from France; and there were imported 16,611 kilograms (36,720 pounds) of felt and straw hats (especially the former), valued at 384,245 francs ($74,157), chiefly from France and Germany. Silk hats are much worn in Ecuador, but only cheap articles are sold.

Laces, embroideries, and passementeries.—Ecuador manufactures most of the lace and embroidery used in the country. The small quantity imported comes from France.

Paper and office furnishings.—The following shows the imports in 1893:

Articles.	Country of origin.	Weight.		Value.	
		Kilograms.	*Pounds.*	*Francs.*	
Books, etc	Spain and France	81,042	178,665	358,616	$69,212
Paper and office articles	France and Germany	445,261	981,622	837,696	161,669

Leather articles.—Ecuador sends to the United States and France skins and articles of leather. In 1893, the export amounted to 620,162 kilograms (1,367,202 pounds), valued at 775,717 francs ($149,913). The skins were raw, salted, and tanned, and there is a fair demand for them. The imports—mainly from England, France, and Germany—amounted to the value of 419,324 francs ($80,929). There are no large native tanneries. The proprietor of each hacienda tans skins according to the old methods.

Oils, soap, and candles.—These are not produced or manufactured in the country. The import—principally from France, Germany, and Holland—was valued at 1,345,969 francs ($259,772).

Alimentary products.—The value of the import in 1893 was 8,158,095 francs ($1,574,507). France supplied the greater portion; but the United States is beginning to furnish some articles; sugar should be especially mentioned.

Wine, beer, and spirits.—The beer for home consumption is made in Ecuador. A small quantity of German beer is imported. The larger part of the imports, valued in 1893 at 4,730,086 francs ($912,906), came from France.

General remarks.—There is a good market here for all European products, on the condition that they are cheap. This consideration is more important for the purchaser than the quality. Trade is transacted chiefly by commercial travelers.

Agricultural Condition of French Guiana.—The Bulletin de la Société de Géographie Commerciale, Paris, Vol. XIX, No. 4, has a letter from a correspondent in Cayenne, from which the following paragraph is taken:

> French Guiana has always been considered unhealthy; but if the medical records are consulted, it will be found that the colony is no more subject to epidemics than are neighboring countries which have a better reputation. Yellow fever comes entirely from without; the other maladies are the result of imprudence or excess. If attention were given to cultivating the land, instead of to gold mining, the results would be better for individuals as well as for the country. The land is amazingly fertile. Grass grows in a night. Fruit trees bear twice and thrice a year. Coffee and cacao trees and sugar cane grow rapidly. As to the question of labor, there are several races which readily become acclimated in Guiana—the Arabs, coolies, and the Indo-Chinese. The coolies are lazy and vicious, and the Arabs can not be persuaded to remain long away from their native country, but the Indo-Chinese are industrious and intelligent. They have sober habits, with the exception of the use of opium; and although the great distance which separates Indo-China from Guiana seems an obstacle, the introduction of a number of these immigrants would be of great benefit to the country.

INDEX.

VOL. LIV—NOS. 200, 201, 202, AND 203.

Adulterant, new, for essential oils, 213.
Africa:
  Egypt, cotton season, 339.
  Ivory Coast, commerce, 595.
  Ivory Coast, mahogany, 339.
  Mozambique, sugar refinery, 161.
Africa, East, steamers from Venice, 214.
Africa, South:
  Cattle plague, cure, 150.
  Gold mines, condition (1894), 469.
  Natal, commerce (1896), 469.
Africa, West, Portuguese colonies, 160.
Agricultural and industrial condition, Madagascar, 339.
Agricultural conditions, Honduras, 282.
Agricultural implements, Bulgaria, 419.
Agricultural products, Malaga, 436.
Agricultural products, movement, Switzerland, 462.
Agricultural statistics, Ireland, 51.
Agriculture:
  Canada, 158.
  French Guiana, 601.
Ales and beers, light, Chile, 579.
Almond tree, Malaga, 437.
Aluminium output, world's, 322.
America, iron industry, 165.
American apples, Germany, 324.
American cheese, Germany, 147.
American cotton-seed oil, Marseilles, 430.
American cotton, Shanghai, 236.
American drug preparations, France, 215.
American enterprise:
  British Honduras, 356.
  Siam, 475.
American horses:
  Belfast, 372.
  Germany, 581.
American iron and steel, Great Britain, 361.
American machines, Germany, 503.
American pine, Italy, 458.
American products, Belgium, 379.
American railway project, China, 158.
American sheep, Australia, 453.
American store, Brussels, 378.
American tools and machinery, Germany, 122.
American women, Zurich, 133.
An American contractor, China, 474.
Angola, railroad, 338.
Aniline oil, removal of duty, Netherlands, 464.
Animals, domestic, Swiss imports, 150.
Antwerp, public wool sale, 336.
Aphthous stomatitis, Netherlands, 201.
Apples, American, Germany, 324.
Argentine Republic:
  Commerce (1896), 471.
  German trade, 98.
  Notes from, 472.
  Proposals for Government contracts, 270.
Artificial flooring, Germany, 490.
Artificial ice, Venice, 152.
Artificial silk, Germany, 107.
Australasia, gold, 157.
Australia:
  American sheep, 453.
  Bicycle trade, Victoria, 297.
  Federal movement, 284.
  Mother-of-pearl industry, 340.
  Motor carriages, Victoria, 300.
  Trade with United States, 295.
  Wool sales and mint returns, 34.
Austria:
  Bohemian springs, visitors (1896), 153.

Austria—Continued.
  Brunn, textile high school, 449.
  Prevention of hailstorms by means of explosions, 321.
  Shipbuilding (1896), 138.

Baltic and Black seas, canal connecting, 456.
Banana cultivation:
  Nicaragua, 556.
  Santo Domingo, 329.
Banana trade:
  Bocas del Toro, 564.
  Colombia, 564.
Bank:
  Imperial, China, 238.
  New, Caracas, 359.
Banking systems, Switzerland, 30.
Banks, savings, France, 167.
Barrels, damascus gun, Belgium, 526.
Bassorah and United States, trade relations, 312.
Bavaria, beer industry, 126.
Bay, Jiquilisco, Salvador, 349.
Beer:
  Foreign, Uruguay, 570.
  Germany, 336.
  Industry, Bavaria, 126.
  Trade, Switzerland, 463.
Beer grains, dried, as cattle food, Germany, 389.
Beers and ales, light, Chile, 579.
Beet sugar:
  Crisis, Europe, 304.
  Factory sites, Germany, 524.
  Production, Germany, 151.
Beet, sugar, planting, Germany, 310.
Belfast:
  American horses, 372.
  Canned tomatoes, 198.
  Prospects for United States machinery, 369.
Belgium:
  American products, 378.
  Antwerp, public wool sale, 33
  Brussels, American store, 378.
  Brussels as a trade center, 375.
  Damascus gun barrels, 526.
  Ghent, electric street railways, proposed, 319, 585.
  Ghent, retail trades inquiry, 551.
  Railway hospital car, 145.
Belgium—Continued.
  Slate trade, 140.
  Street sprinkling with disinfectants, 200.
Belize-New York-Hamburg steamship service, 356.
Belize, opening for machinery, 579.
Bicycle trade:
  Italy, 212.
  Malta, 587.
  New South Wales, 498.
  Victoria, 297.
Bicycles:
  Duties, Nicaragua, reduction, 268.
  Germany, 493.
  Nicaragua, 502.
  Russia, 495.
Black and Baltic seas, canal connecting, 456.
Bocas del Toro, banana trade, 564.
Bohemian springs, visitors (1896), 153.
Bolivia, railway concession, 473.
Book production, Spain, 151.
Boots and cloth, military, wanted, Bulgaria, 149.
Borneo, North, commerce (1896), 476.
Botanical gardens, aids to colonial development, 162.
Bounty on Japanese silk exports, 424.
Bradford:
  Draft horses, 40.
  Improved spinning machinery, 45.
Brazil:
  Demand for machinery, 337.
  German success in, 326.
  Imports from Germany, 585.
  Iquitos, direct trade with, 156.
  Railway situation, 472.
  Santos, coffee exports, 154.
Bremen, examination of horses, 383.
Brick and wood, Nicaragua, 345.
Brimstone, Sicily, 201.
British Guiana:
  Demerara, mortality, 328.
  Tariff, 272.
British Honduras:
  American enterprise, 356.
  Belize-New York-Hamburg steamship service, 356.
  Railroad, 357.

Brunn, textile high school, 449.
Brussels:
  American store, 378.
  As a trade center, 375.
Bulgaria:
  Agricultural implements, 419.
  Commerce (1896), 591.
  Military cloth and boots wanted, 149.
  Projected railroad, 152.
Butter, German versus Finnish, 96.

Calcutta, industrial exposition, 340.
Canada:
  Agriculture, 158.
  Rainy River, navigation improvements, 332.
  Stave industry, 316.
Canal:
  Baltic and Black seas, 456.
  Panama, French machinery, 331.
  Suez, traffic (1896), 311.
Canned tomatoes, Belfast, 198.
Car:
  Railway hospital, Belgium, 145.
  Street, system, Montevideo, 3.
Caracas, new bank, 359.
Carbolineum, Nicaragua, 269.
Carriages, motor, Victoria, 300.
Cattle food, dried beer grains as, 389.
Cattle plague:
  Cure, South Africa, 150.
  Russia, 179.
Caviar, United States, Europe, 387.
Centralization, industrial, Europe, 546.
Cheese, American, Germany, 147.
Chihuahua, railroad to the Pacific, 352.
Chile, light beers and ales, 579.
China:
  American railway project, 158.
  An American contractor in, 474.
  Exports, Germany, 452.
  Hanyang iron works, an American at, 320.
  Imperial bank, 238.
  Insect white wax, 484.
  Iron mines, 249.
  Minerals, 473.
  Oil tree, 477.
  Peiho River, improvement, 455.
  Postal service, 244.
  Railway opened, 455.
  Shanghai, American cotton, 236.

China—Continued.
  Tientsin, demand for fire engines, 238.
  Tongshan, industrial enterprises, 237.
  Trade of the new treaty ports, 231.
  West River, opened to trade, 229.
  Yangtze Kiang region, 9.
China manufacture, Limoges, 426.
Citrus fruit industry, Italy, 211.
Climate, Malaga, 440.
Clocks and watches, foreign, Russia, 444.
Cloth and boots, military, wanted, Bulgaria, 149.
Coal mines:
  Colombia, 580.
  Great Britain, 53.
Coal mining, France, 85.
Coffee:
  Export duty, Colombia, 281.
  Exports, Santos, 154.
  Substitute, Germany, 324.
Coinage bill, Japan, text, 259.
Coke-burning stoves, scientific test, 392.
Colombia:
  Banana trade, 564.
  Coal mines, 580.
  Commerce (1895), 472.
  Export duty on coffee, 281.
  New customs regulations, 69.
  New tariff, 1.
  Panama Canal, French machinery, 331.
Colonial development, botanical gardens, aids, 162.
Colonial finances, Portuguese, 161.
Colonial museum, German, 163.
Colonies:
  English, dairy products, 337.
  Hebrew, Palestine, 589.
  Portuguese, West Africa, 160.
Colony, Mexican, 153.
Commercial agency, need of, Mexico, 329.
Commercial agents, foreign, Sweden, 460.
Commercial travelers, Germany's, 326.
Consular reports transmitted to other Departments, 159, 332, 464, 589.
Consumption tax, new, Madagascar, 421.
Contracts, government, proposals for, Argentine Republic, 270.
Copenhagen, free port, industries, 540.

Copper, tin, and gold ore, Great Britain, 54.
Cork-stone flooring, Germany, 491.
Costa Rica, commerce (1895), 337.
Cotton:
  American, Shanghai, 236.
  Season, Egypt, 339.
  Spinning, development, Germany, 335.
Cotton-seed oil, American, Marseilles, 430.
Craiova, water franchise, 149.
Credit associations, Germany, 504.
Crete, commerce, 168.
Crop:
  Currant, Greece, 120, 317.
  Walnut, southern Italy, 459.
Cure, cattle plague, South Africa, 150.
Currant crop, Greece, 120, 317.
Currency legislation, Dominican Republic, 355.
Customs regulations, new, Colombia, 69.
Customs tariff, Russia, 169.

Dairy products, English colonies, 337.
Damascus gun barrels, Belgium, 526.
Demerara, mortality, 328.
Denmark:
  Copenhagen, free port, industries, 540.
  Fog signals for steamers, 71.
  Shipbuilding (1896), 138.
  Treatment of plants with ether, 143.
Disinfectants, street sprinkling with, 200.
Dock and railway construction, Hull, 458.
Dock, new dry, Hamburg, 385.
Dogs, importation, Great Britain, 583.
Dominican Republic, currency legislation, 355.
Draft horses, Bradford, 40.
Drug preparations, American, France, 215.
Dry dock, new, Hamburg, 385.
Dublin County, electric tramways, 457.
Dusseldorf, street railways, 333.
Dutch East Indies, commerce, 163.
Duties on bicycles, Nicaragua, reduction, 268.
Duty:
  Aniline oil, Netherlands, removal, 464.
  Export, coffee, Colombia, 281.
  Lard, Nicaragua, 267.
Duty—Continued.
  Leather, Sweden and Norway, increase, 148.
  Windmills, Venezuela, removal, 342.

East Indies, Dutch, commerce, 163.
Economic and social problems, Europe, 73.
Ecuador:
  Commerce (1894), 598.
  Imports (1893), 599.
Education:
  Industrial, Germany, 95.
  Technical, Germany, 447.
Egypt:
  Cotton season, 339.
  Suez Canal traffic (1896), 311.
Electric light and power station, Piedras Negras, 6.
Electric street railways:
  Europe, 549.
  Ghent, 319, 585.
Electric tramways, County Dublin, 457.
Emigration:
  Europe, 583.
  German, new channel, 521.
  Statistics, Germany, 325.
Engines, fire, demand for, Tientsin, 238.
England:
  Draft horses, Bradford, 40.
  Exports from Manchester to United States, 365.
  Hull, construction, railway and dock, 458.
  Improved spinning machinery, Bradford, 45.
  Iron industry, 165.
  Law, limitation, 531.
  Profit sharing, 78.
English colonies, dairy products, 337.
Essential oils, new adulterant, 213.
Ether, treatment of plants with, 143.
Europe:
  Beet-sugar crisis, 304.
  Economic and social problems, 73.
  Electric street railways, 549.
  Emigration, 583.
  Industrial centralization, 546.
  Iron production and exports, 110.
  Shipbuilding (1896), 135.
  United States caviar, 387.
Exhibition, samples, Stuttgart, 519.
Export duty on coffee, Colombia, 281.

Exports:
  Belfast, recent increase, 199.
  China, Germany, 452.
  Coffee, Santos, 154.
  Germany, to Brazil, 585.
  Germany, to Italy, 106.
  Germany, to Japan (1896), 584.
  Germany, to Netherlands, 461.
  Germany, to New South Wales, 103.
  Iron, Spain, 118.
  Japan, 264, 266.
  Japanese silk, bounty, 424.
  Manchester, to United States, 365.
  Palermo, to United States, 404.
  South Germany, to United States, 315.
  Sulphur, Italy, 204.
Exports and production, iron, Europe, 110.
Exposition:
  Industrial, Calcutta, 340.
  International, Glasgow, 336.
  Machinery, Lima, 155.

Factory sites, beet-sugar, 524.
Falkland Islands, projected naval station, 582.
Federal movement, Australia, 284.
Felt, iron, Germany, 462.
Fig tree, Malaga, 437.
Finances, Portuguese, colonial, 161.
Financial crisis, Nicaragua, 554.
Finland, foreign commerce (1894), 594.
Finnish versus German butter, 96.
Fire engines, demand for, Tientsin, 238.
Flooring:
  Artificial, Germany, 490.
  Cork-stone, Germany, 491.
  Elastic, Germany, 491.
Flora, Paraguay, 165.
Flour, French, Germany, 112.
Fog signals for steamers, 71.
Food, cattle, dried beer grains as, 389.
Forests, Switzerland, replanting, 151.
France:
  American drug preparations, 215.
  Coal mining, 85.
  Commerce, first four months (1897), 466.
  Commerce, January and February (1897), 167.
  Iron mining, 85.
  Limoges, china manufacture, 426.
France—Continued.
  Lyons versus Zurich silk industry, 115.
  Marseilles, American cotton-seed oil, 430.
  Mining statistics, 85.
  Savings banks, 167.
  Staves, Nice, 432.
  Vintage (1896), 67.
  Wine production, 65.
Franchise, water, Craiova, 149.
Free port:
  Copenhagen, industries, 540.
  Hamburg, industries, 533.
Freight rates, New York to Nicaragua, 155.
French commerce (1896), 334.
French Guiana, agricultural condition, 601.
French machinery, Panama Canal, 331.
Fruit:
  Citrus, industry, Italy, 211.
  Industry, Sicily, 205.

Galicia, sardines, 405.
Galician kerosene, Germany, 114.
Gardens, botanical, aids to colonial development, 162.
German colonial museum, 163.
German versus Finnish butter, 96.
Germany:
  American apples, 324.
  American cheese, 147.
  American horses, 581.
  American machines, 503.
  American tools and machinery, 122.
  Artificial silk, 107.
  Bavaria, beer industry, 126.
  Beer, 336.
  Beet-sugar factory sites, 524.
  Beet-sugar production, 151.
  Bicycles, 493.
  Bremen, examination of horses, 383.
  China, exports, 452.
  Coffee, substitute, 324.
  Commerce (1896), 168.
  Commerce, first three months (1897), 466.
  Commercial travelers, 326.
  Cork-stone flooring, 491.
  Cotton spinning, development, 335.
  Credit associations, 504.
  Dried beer grains as cattle food, 389.

Germany—Continued.
  Dusseldorf, street railways, 333.
  Effect of sugar law, 309.
  Elastic flooring, 491.
  Emigration statistics, 325.
  Exports to Brazil, 585.
  Exports to Italy, 106.
  Exports to Japan (1896), 584.
  Exports to Netherlands, 461.
  Exports to New South Wales, 103.
  Foreign lumber, 381.
  French flour, 112.
  Galician kerosene, 114.
  Grain imports, 450.
  Hamburg, free port, industries, 533.
  Hamburg, new dry dock, 385.
  Hamburg, seamen's bureau, 511.
  Industrial education, 95.
  Industries in the free port of Hamburg, 533.
  Iron felt, 462.
  Iron industry, 165.
  Labor insurance, results, 445.
  Labor legislation, 395.
  Leipsic, lodgings for workmen, 467.
  Lumber, 380.
  Machinery, 102.
  New channel for emigration from, 521.
  New United States tariff, 394.
  North German Lloyd Steamship Company's report, 327.
  Papyrolith and other artificial flooring, 490.
  Physical-technical institute, 412.
  Place among industrial nations, 94.
  Porcelain making, 452.
  Russian rubbers, 104.
  Sewing needles, 92.
  Shipbuilding (1896), 137.
  Spindles (1896), 100.
  Stoves, coke-burning, scientific test, 392.
  Straw plaiting, 86.
  Stuttgart, samples exhibition, 519.
  Success, Brazil, 326.
  Sugar-beet planting, 310.
  Tariff relations with Russia, 460.
  Technical education, 447.
  Textile industries (1896), 98.
  Trade, Argentine Republic, 98.
  Trusts, 467.
  Unemployed, 105.
Germany, South, exports to United States, 315.
Ghent:
  Electric street railway, 319, 585.
  Retail trades inquiry, 551.
Glasgow, international exposition (1901) 336.
Glass and glassware, Uruguay, 571.
Gold:
  Australasia, 157.
  Mines, South Africa, condition, (1894), 469.
  Standard, Japan, 252.
Gold and platinum production, Russia, (1895), 594.
Gold, tin, and copper ore, Great Britain, 54.
Grain:
  Imports, Germany, 450.
  Malaga, 438.
Grains, dried beer, as cattle food, 389.
Grape culture, Uruguay, 574.
Grapes, fresh, and seed potatoes, preservation, Italy, 586.
Grapes, Malaga, 436.
Great Britain:
  American iron and steel, 361.
  Coal mines, 53.
  Draft horses, Bradford, 40.
  Importation of dogs, 583.
  Improved spinning machinery, Bradford, 45.
  Iron ore, 54.
  Mineral industry, 52.
  Tin, copper, and gold ore, 54.
Greece:
  Commerce (1896), 163.
  Currant crop, 120, 317.
  Telegraph system, 404.
Guiana, British:
  Demerara, mortality, 328.
  Tariff, 272.
Guiana, French, agricultural condition, 601.
Gun barrels, damascus, Belgium, 526.
Gut, Spanish silkworm, 119.

Hailstorms, prevention, by means of explosions, 321.
Hamburg:
  Free port, industries, 533.
  New dry dock, 385.
  Seamen's bureau, 511.

Hanyang iron works, an American at, 320.
Hebrew colonies, Palestine, 589.
Holland, imports from Germany, 461.
Honduras:
  Agricultural conditions, 282.
  Puerto Cortez closed to commerce, 283.
  Tariff changes, 566.
Honduras, British:
  American enterprise, 356.
  Belize-New York-Hamburg steamship service, 356.
  Belize, opening for machinery, 579.
  Railroad, 357.
Hooks, wire, and picture molding, Switzerland, 151.
Horses:
  American, Belfast, 372.
  American, Germany, 581.
  Draft, Bradford, 40.
  Examination, Bremen, 383.
  United States, Switzerland, 464.
Hospital car, railway, Belgium, 145.
Hull, construction of railway and dock, 458.
Hungary, commerce (1896), 334.

Ice, artificial, Venice, 152.
Implements, agricultural, Bulgaria, 419.
Importation of dogs, Great Britain, 583.
Imports:
  Ecuador (1893), 599.
  Grain, Germany, 450.
  Japan, 263, 266.
  Japan, from United States, 264.
  Meat, Sweden, regulations, 323.
  Swiss domestic animals, 150.
  United States, from Manchester, 365.
India:
  Calcutta, industrial exposition, 340.
  Revision of tariff valuations, 587.
  Wheat and rice, 225.
Indian plague, Russia, measures to exclude, 180.
Insect white wax, China, 484.
Institute, physical-technical, Germany, 412.
Insurance, labor, Germany, 445.
Iquitos, direct trade with, 156.
Ireland:
  Agricultural statistics, 51.
  Belfast, American horses, 372.
  Belfast, canned tomatoes, 198.
  Belfast, prospects for United States machinery, 369.
  Belfast, recent increase of exports, 199.
  Consumption of maize, 367.
  County Dublin, electric tramways, 457.
  Law, limitation, 531.
  Timber trade, 47.
Iron:
  Mines, China, 249.
  Mining, France, 85.
  Ore, Great Britain, 54.
  Works, Hanyang, an American at, 320.
Iron and steel, American, Great Britain, 361.
Iron felt, Germany, 462.
Iron production and exportation:
  Europe, 110.
  Spain, 118.
Italy:
  American pine, 458.
  Bicycle trade, 212.
  Citrus-fruit industry, 211.
  Commerce in 1896, and January, 1897, 167.
  Exportation, sulphur, 204.
  Exports from Palermo to United States, 404.
  Foreign commerce, 442.
  Imports, German, 106.
  New adulterant for essential oils, 213.
  Preservation of fresh grapes and seed potatoes, 586.
  Sicilian fruit industry, 205.
  Sicily, brimstone, 201.
  Steamers from Venice to eastern Africa, 214.
  Telegraphic signaling on board ship, 70.
  Turin, silk trade, 418.
  Venice, artificial ice, 152.
  Italy, southern, walnut crop, 459.
Ivory Coast:
  Commerce, 595.
  Mahogany, 339.

Jamaica, tariff laws, not changed, 465.
Japan:
    Bounty on Japanese silk exports, 424.
    Coinage bill, text, 259.
    Exports, 264, 266.
    Foreign commerce, 263.
    Gold standard, 252.
    Imports, 263, 266.
    Imports from Germany (1896), 584.
    Imports from United States, 264.
    New tariff, 475.
    Trade conditions, 261.
Jiquilisco Bay, Salvador, 349.

Kerosene, Galician, Germany, 114.
Knoch's cork-stone flooring, 491.
Knoch's elastic flooring, 491.
Koch's (Professor) new tuberculine, 219.
Korea, work on Seoul-Chemulpo Railroad, 320.

Labor:
    Bureaus, Netherlands, 543.
    Insurance, Germany, 445.
    Legislation, Germany, 395.
Lands, public, Nicaragua, 565.
Lard, duty, Nicaragua, 267.
Laws:
    Limitation, United Kingdom, 531.
    Quarantine, Peru, 155.
    Sugar, Germany, effect, 309.
    Tariff, Jamaica, not changed, 465.
Leather, Sweden and Norway, increased duty, 148.
Leipsic, lodgings for workmen, 467.
Lemon and orange trees, Malaga, 438.
Lima, exposition, machinery, 155.
Limitation law, United Kingdom, 531.
Limoges, china manufacture, 426.
Liquor, government monopoly, Russia, 181.
Lodgings for workmen, Leipsic, 467.
Lumber:
    Foreign, Germany, 381.
    Germany, 380.
Lyons versus Zurich silk industry, 115.

Machine building, Russia, 129.
Machinery:
    Demand for, Brazil, 337.
    Exposition, Lima, 155.
Machinery—Continued.
    French, Panama Canal, 331.
    Germany, 102.
    Opening for, Belize, 579.
    United States, prospects for, Belfast, 369.
Machinery and tools, American, Germany, 122.
Machines:
    American, Germany, 503.
    Rice-hulling, demand for, Madagascar, 156.
Madagascar:
    Demand for rice-hulling machines, 156.
    Industrial and agricultural condition, 339.
    New consumption tax, 421.
    Rubber trade, 301.
Mahogany, Ivory Coast, 339.
Maize, consumption, Ireland, 367.
Malaga:
    Agricultural products, 436.
    Almond tree, 437.
    Climate, 440.
    Fig tree, 437.
    Grain, 438.
    Grapes, 436.
    Lemon and orange trees, 438.
    Olive tree, 438.
    Sugar cane, beet root, and sorghum, 438.
    Trees and shrubs, 439, 441.
    Vega, 439.
Malta, bicycle trade, 587.
Margarin, prohibition, Martinique, 578.
Market for United States products, Switzerland, 398.
Marseilles, American cotton-seed oil, 430.
Martinique:
    Commerce and navigation, 358.
    Prohibition of margarin, 575.
Mauritius, commerce (1895), 339.
Meat, imported, Sweden, regulations, 323.
Mexican colony, 153.
Mexico:
    Commerce (1896), 166.
    Electric light and power station, Piedras Negras, 6.

Mexico—Continued.
  Need of a commercial agency, 329.
  Railroad from Chihuahua to the Pacific, 352.
Mineral industry, Great Britain, 52.
Mineral statistics, Spain, 117.
Minerals, China, 473.
Mines:
  Coal, Colombia, 580.
  Coal, Great Britain, 53.
  Iron, China, 249.
  Nicaragua, 354.
Mining:
  Coal, France, 85.
  Iron, France, 85.
  Statistics, France, 85.
Mint:
  Regulations, St. Petersburg, 184.
  Returns and wool sales, Australia, 34.
Molding, picture, wire, and hooks, Switzerland, 151.
Monopoly:
  Liquor, Government, Russia, 181.
  Tobacco, Nicaragua, 555.
Montevideo, street-car system, 3.
Morocco, Tangier and New York steamship service, 588.
Mother-of-pearl industry, Australia, 340.
Motor carriages, Victoria, 300.
Mozambique:
  New taxes, 28.
  Sugar refinery, 161.
Museum, German colonial, 163.

Natal, commerce (1896), 469.
Naval station, Falkland Islands, 582.
Needles, sewing, Germany, 92.
Netherlands:
  Aphthous stomatitis, 201.
  Imports from Germany, 461.
  Labor bureaus, 543.
  Paraffin oil, 146.
  Removal of duty on aniline oil, 464.
New South Wales:
  Bicycle trade, 498.
  Imports, German, 103.
New York and Tangier steamship service, 589.
New York, freight rates to Nicaragua, 155.
Nicaragua:
  Banana cultivation, 556.
  Bicycles, 502.
  Brick and wood, 345.
  Carbolineum, 269.
  Duty on lard, 267.
  Financial crisis, 554.
  Freight rates from New York, 155.
  Goods sold on commission, 269.
  Mines, 354.
  Public lands, 565.
  Reduction of duties on bicycles, 268.
  Rubber tax, 348.
  San Juan del Norte, tax on rubber shipped, 579.
  Tobacco monopoly, 555.
  Trade, 343.
Nice, staves, 432.
Nobel prizes for scientific discoveries, 330.
Norfolk Island, government, 37.
North German Lloyd Steamship Company's report, 327.
Norway:
  Shipbuilding (1896), 137.
  Special commerce (1896), 334.
Norway and Sweden, increased duty on leather, 148.

Oil:
  American cotton-seed, Marseilles, 430.
  Aniline, removal of duty, Netherlands, 464.
  Paraffin, Netherlands, 146.
Oil tree, China, 477.
Oils, essential, new adulterant, 213.
Olive tree, Malaga, 438.
Ore:
  Iron, Great Britain, 54.
  Tin, copper, and gold, Great Britain, 54.

Pacific, railroad from Chihuahua, 352.
Palermo, exports to United States, 404.
Palestine, Hebrew colonies, 589.
Panama Canal, French machinery, 331.
Papyrolith and other artificial flooring, Germany, 490.
Paraffin oil, Netherlands, 146.
Paraguay:
  Commerce, 165.
  Flora, 165.

Peiho River, China, improvement, 455.
Peru:
  Lima, exposition, machinery, 155.
  Quarantine laws, 155.
  Railway construction, 337.
Petroleum trade, Russia, 185.
Philippine Islands, industrial condition, 596.
Physical-technical institute, Germany, 412.
Picture molding, wire, and hooks, Switzerland, 151.
Piedras Negras, electric light and power station, 6.
Pine, American, Italy, 458.
Plague, cattle:
  Cure, South Africa, 150.
  Russia, 179.
Plague, Indian, Russia, measures to exclude, 180.
Plants, treatment with ether, 143.
Platinum and gold production, Russia (1895), 594.
Porcelain making, Germany, 452.
Port, free:
  Copenhagen, industries, 540.
  Hamburg, industries, 533.
Ports, new treaty, China, 231.
Portugal:
  Colonial finances, 161.
  Colonies, West Africa, 160.
  Commerce (1894 and 1895), 591, 592.
Postal service, China, 244.
Postal telegraphs, Switzerland, 517.
Potatoes, seed, and fresh grapes, preservation, Italy, 586.
Prices of principal articles, Russia, 528.
Prizes, Nobel, for scientific discoveries, 330.
Profit sharing, England, 78.
Puerto Cortez closed to commerce, 283.

Quarantine laws, Peru, 155.

Railroad:
  Angola, 338.
  British Honduras, 357.
  Enterprise, Venezuela, 320.
  From Chihuahua to the Pacific, 352.
  New, Sierra Leone, 420.
  Projected, Bulgaria, 152.
  Seoul-Chemulpo, work on, 320.
  Strike, Zurich, 140.
Railway:
  Concession, Bolivia, 473.
  Construction, Peru, 337.
  Electric, street, Ghent, 319, 585.
  Hospital car, Belgium, 145.
  New, Venezuela, 568.
  Opened, China, 455.
  Progress (1896), Siberia, 175.
  Project, American, China, 158.
  Situation, Brazil, 472.
  Street, Dusseldorf, 333.
  Street, electric, Europe, 549.
  Transsiberian, 177.
Railway and dock construction, Hull, 458.
Rainy River, navigation improvements, 332.
Rates, freight, New York to Nicaragua, 155.
Raw silk, Syria, 457.
Refinery, sugar, Mozambique, 161.
Retail trades inquiry, Ghent, 551.
Rice and wheat, India, 225.
Rice-hulling machines, demand for, Madagascar, 156.
Rope, wire, industry, Russia, 407.
Roumania:
  Foreign commerce (1895), 335.
  Water franchise, Craiova, 149.
Rubber:
  Shipped, San Juan del Norte, tax, 579.
  Tax, Nicaragua, 348.
  Trade, Madagascar, 301.
  Tonkin, 596.
Rubbers, Russian, Germany, 104.
Russia:
  Bicycles, 496.
  Canal connecting Baltic and Black seas, 456.
  Cattle plague, 179.
  Clocks and watches, foreign, 444.
  Customs tariff, 169.
  Gold and platinum production (1895), 594.
  Government liquor monopoly, 181.
  Indian plague, measures to exclude, 180.
  Machine building, 129.
  Mint regulations, St. Petersburg, 184.
  Petroleum trade, 185.
  Prices of principal articles, 528.

Russia—Continued.
  Siberian railway progress (1896), 175.
  Tariff relations with Germany, 460.
  Trade methods, 397.
  Transsiberian route to the East, 177.
  Wire-rope industry, 407.
Russian rubbers, Germany, 104.

St. Petersburg, mint regulations, 184.
Salvador, Bay of Jiquilisco, 349.
Samples exhibition, Stuttgart, 519.
San Juan del Norte, tax on rubber shipped, 579.
Santo Domingo:
  Banana cultivation, 329.
  Commerce (1895), 598.
Santos, coffee exports, 154.
Sardines, Galicia, 405.
Savings banks, France, 167.
School, textile high, Brunn, 449.
Scotland:
  Glasgow, international exposition (1901), 336.
  Law, limitation, 531.
Seamen's bureau, Hamburg, 511.
Seoul-Chemulpo Railroad, work on, 320.
Servia, commerce (1895), 335.
Sewing needles, Germany, 92.
Shanghai, American cotton, 236.
Sheep, American, Australia, 453.
Shipbuilding:
  Austria (1896), 138.
  Denmark (1896), 138.
  Europe (1896), 135.
  Germany (1896), 137.
  Norway (1896), 137.
  United Kingdom (1896), 135.
  United States (1896), 138.
Siam, American enterprise, 475.
Siberia:
  Railway progress (1896), 175.
  Transsiberian route to the East, 177.
Sicily:
  Brimstone, 201.
  Fruit industry, 205.
Sierra Leone, new railroad, 420.
Signaling, telegraphic, on board ship, 70.
Signals, fog, for steamers, 71.
Silk:
  Artificial, Germany, 107.
  Exports, Japanese, bounty, 424.
  Industry, Lyons versus Zurich, 115.
Silk—Continued.
  Raw, Syria, 457.
  Trade, Turin, 418.
Silkworm gut, Spanish, 119.
Slate trade, Belgium, 146.
Slavery, abolition, Zanzibar, 422.
Social and economic problems, Europe, 73.
South Africa:
  Cattle plague, cure, 150.
  Gold mines, condition (1894), 469.
  Natal, commerce (1896), 469.
South America, trade methods, 341.
Spain:
  Galicia, sardines, 405.
  Iron production and exportation, 118.
  Malaga, agricultural products, 436.
  Mineral statistics, 117.
  Production of books, 153.
  Silkworm gut, 119.
  Valencia, trade, 197.
Spindles, Germany (1896), 100.
Spinning:
  Cotton, development, Germany, 335.
  Machinery, improved, Bradford, 45.
Springs, Bohemian, visitors (1896), 153.
Sprinkling, street, with disinfectants, 200.
Statistics:
  Emigration, Germany, 325.
  Mineral, Spain, 117.
  Vital, Demerara, 328.
Stave industry, Canada, 316.
Staves, Nice, 432.
Steamers from Venice to eastern Africa, 214.
Steamship company (North German Lloyd) report, 327.
Steamship service:
  Belize-New York-Hamburg, 356.
  New York and Tangier, 588.
Steel and iron, American, Great Britain, 361.
Street railway, electric, Ghent, 585.
Store, American, Brussels, 378.
Storms, report upon prevention, Austria (correction), 586.
Stoves, coke-burning, scientific test, 392.
Straw plaiting, Germany, 86.
Street-car systems, Montevideo, 3.
Street railways:
  Dusseldorf, 333.

Street railways—Continued.
  Electric, Europe, 549.
  Electric, Ghent, 319, 585.
Street sprinkling with disinfectants, 200.
Strike, railroad, Zurich, 140.
Stuttgart, samples exhibition, 519.
Suez Canal traffic (1896), 311.
Sugar:
  Industry, West Indies, 138.
  Law, Germany, effect, 309.
  Refinery, Mozambique, 161.
Sugar, beet:
  Crisis, Europe, 304.
  Factory sites, 524.
  Production, Germany, 151.
Sugar-beet planting, Germany, 310.
Sugar cane, beet root, and sorghum, Malaga, 438.
Sulphur, exportation, Italy, 204.
Sweden:
  Foreign commercial agents, 460.
  Nobel prizes for scientific discoveries, 330.
  Regulations, imported, meat, 323.
Sweden and Norway, increased duty on leather, 148.
Swiss watches, United States, 217.
Switzerland:
  American women at Zurich, 133.
  Banking systems, 30.
  Beer trade, 463.
  Commercial condition (1896), 593.
  Foreign commerce (1896), 334.
  Imports, domestic animals, 150.
  Market for United States products, 398.
  Movement of agricultural products, 462.
  New vegetable, 320.
  Picture molding, wire, and hooks, 151.
  Postal telegraphs, 517.
  Railroad strike, Zurich, 140.
  Replanting forests, 151.
  Report upon prevention of storms (correction), 586.
  United States horses, 464.
  Zurich versus Lyons silk industry, 115.
Syria:
  Bassorah and United States, trade relations, 312.
  Raw silk, 457.
Tangier and New York, steamship service, 588.
Tariff:
  British Guiana, 272.
  Changes, Honduras, 566.
  Customs, Russia, 169.
  Laws, Jamaica, not changed, 465.
  New, Colombia, 1.
  New, Japan, 475.
  New, United States, Germany, 394.
  Relations, Russia and Germany, 460.
  Valuations, revision, India, 587.
Tax:
  New consumption, Madagascar, 421.
  Rubber, Nicaragua, 348.
  Rubber, shipped, San Juan del Norte, 579.
Taxes, new, Mozambique, 28.
Telegraph system, Greece, 404.
Telegraphic signaling on board ship, 70.
Telegraphs, Swiss postal, 517.
Technical education, Germany, 447.
Textile high school, Brunn, 449.
Textile industries, Germany (1896), 98.
Tientsin, demand for fire engines, 238.
Timber trade, Ireland, 47.
Tin, copper, and gold ore, Great Britain, 54.
Tobacco monopoly, Nicaragua, 555.
Tomatoes, canned, Belfast, 198.
Tongshan, industrial enterprises, 237.
Tonkin, rubber, 596.
Tools and machinery, American, Germany, 122.
Trade methods, Russia, 397.
Tramways electric, County Dublin, 457.
Transsiberian railroad traffic, estimates, 274.
Transvaal, economic situation (1896), 467.
Treaty ports, new, China, trade, 231.
Tree, oil, China, 477.
Trees and shrubs, Malaga, 439, 441.
Trusts, Germany, 467.
Tuberculine, Professor Koch's new, 219.
Tunis, condition (1896), 168.
Turin, silk trade, 418.

Unemployed, Germany, 105.
United Kingdom:
  Belfast, canned tomatoes, 198.

United Kingdom—Continued.
  Belfast, increase of exports, 199.
  Bradford, improved spinning machinery, 45.
  Coal mines, 53.
  Draft horses, Bradford, 40.
  England, iron industry, 165.
  Exports from Manchester to United States, 365.
  Great Britain, importation of dogs, 583.
  Ireland, agricultural statistics, 51.
  Ireland, Belfast, American horses, 372.
  Ireland, Belfast, prospects for United States machinery, 369.
  Ireland, consumption of maize, 367.
  Ireland, County Dublin, electric tramways, 457.
  Iron ore, 54.
  Law, limitation, 531.
  Mineral industry, 52.
  Profit sharing, England, 78.
  Scotland, Glasgow, international exposition (1901), 336.
  Scotland, law, limitation, 531.
  Shipbuilding (1896), 135.
  Timber trade, Ireland, 47.
  Tin, copper, and gold ore, 54.
  Wales, law, limitation, 531.
United States:
  Caviar, Europe, 387.
  Exports to Japan, 264, 266.
  Horses, Switzerland, 464.
  Imports from Manchester, 365.
  Imports from Palermo, 404.
  Imports from South Germany, 315.
  Machinery, prospects for, Belfast, 369.
  New York and Tangier steamship service, 588.
  Products, market for, Switzerland, 398.
  Shipbuilding (1896), 138.
  Swiss watches, 217.
  Tariff, new, Germany, 394.
  Trade with Australia, 295.
United States and Bassorah, trade relations, 312.
Uruguay:
  Condition (1895), 596.
  Foreign commerce (1896), 597.
  Foreign wines and beer, 570.
  Glass and glassware, 571.
Uruguay—Continued.
  Grape culture, 574.
  Street-car systems, Montevideo, 3.

Valencia, trade, 197.
Vega, Malaga, 439.
Vegetable, new, Switzerland, 320.
Venezuela:
  Caracas, new bank, 359.
  Duty on windmills, removal, 342.
  New railway, 568.
  Railroad enterprise, 320.
Venice:
  Artificial ice, 152.
  Steamers to eastern Africa, 214.
Victoria:
  Bicycle trade, 297.
  Motor carriages, 300.
Vintage, France (1896), 67.
Vital statistics, Demerara, 328.

Wales, law, limitation, 531.
Walnut crop, southern Italy, 459.
Watches and clocks, foreign, Russia, 444.
Watches, Swiss, United States, 217.
Water franchise, Craiova, 149.
Wax, white, insect, China, 484.
West Africa, Portuguese colonies, 160.
West Indies, sugar industry, 138.
West River, China, opened to trade, 229.
Wheat and rice, India, 225.
Windmills, duty on, Venezuela, removal, 342.
Wine:
  Foreign, Uruguay, 570.
  Production, France, 65.
Wire, hooks, and picture molding, Switzerland, 151.
Wire-rope industry, Russia, 407.
Wood and brick, Nicaragua, 345.
Wool and woolen products, German (1896), 100.
Wool sale, public, Antwerp, 336.
Wool sales and mint returns, Australia, 34.
Workmen, lodgings for, Leipsic, 467.

Yangtze Kiang region, 9.

Zanzibar, abolition of slavery, 422.
Zurich:
  American women at, 133.
  Railroad strike, 140.
Zurich versus Lyons silk industry, 115.

CONTRIBUTORS.

Alf, A. (vice-consul, Canton), 478.
Baker, J. F. (secretary of legation, Managua), 352.
Baker, L. (minister, Managua), 349.
Bartleman, R. M. (consul, Malaga), 118, 436.
Bell, G. W. (consul, Sydney), 284, 453.
Bidlake, J. (consul, Barranquilla), 69, 281.
Billhardt, A. (consul, Moscow), 407.
Bishop, E. F. (consul, Chatham), 316.
Bornholdt, N. P. A. (consul, Riga), 407.
Bowen, H. W. (consul-general, Barcelona), 153.
Boyesen, O. H. (consul, Gothenberg), 323.
Boyle, J. (consul, Liverpool), 583.
Brühl, L. H. (consul, Catania), 201, 204, 205, 210.
Buchanan, W. I. (minister, Buenos Ayres), 270.
Buford, L. M. (consul, Paso del Norte), 153.
Burke, D. N. (consul-general, Tangier), 588.
Burke, R. M. (consul, Chihuahua), 352.
Carpenter, H. C. (commercial agent, Furth), 126.
Caughy, C. M. (consul, Messina), 201, 213.
Chambers, J. C. (consul, Batum), 185, 444.
Chancellor, C. W. (consul, Havre), 65, 73, 78.
Chancellor, P. S. (deputy consul, Havre), 58.
Child, J. T. (consul, Hankow), 158, 320, 480.
Christensen, A. (consular agent, Elsinore), 71.
Comfort, S. (consul, Bombay), 225.
Connelly, J. F. (consul, Osaka and Hiogo), 263.
Coxe, M. (minister, Guatemala), 283.
Denby, C. (minister, Peking), 229, 238, 249, 455.
Deuster, P. V. (consul, Crefeld), 324.
Dobbs, J. M. (consul, Valparaiso), 579.
Donnelly, J. G. (consul-general, Nuevo Laredo), 329.
Doyle, T. S. (consul, Beirut), 457.
Duffie, M. M. (consul, Winnipeg), 332.
Eckford, Q. O. (consul, Kingston, Jamaica), 465.
Fay, A. F. (consul, Denia), 117.
Ferguson, T. B. (minister, Stockholm), 330.
Germain, E. (consul, Zurich), 115, 133, 140, 149, 150, 151, 320, 321, 322, 398, 462, 463, 549, 589.
Griffin, W. T. (commercial agent, Limoges), 215, 426.
Grimke, A. H. (consul, Santo Domingo), 329, 355.
Grinnell, W. F. (consul, Manchester), 365.
Hall, W. B. (consul, Nice), 432.
Hamilton, J. (consular agent, Bassorah), 313.
Harmony, J. (consul, Corunna), 405.
Haugwitz, J. (vice-consul, Santos), 154.
Horton, G. (consul, Athens), 404.
Huntington, H. G. (commercial agent, Castellamare di Stabia), 459.
Hürner, R. (vice-consul, Bagdad), 312.
Hurst, C. B. (consul, Prague), 153.
Jastremski, L. (consul, Callao), 155.
Jenkins, R. L. (consul, Patras), 120, 317.
Jernigan, T. R. (consul-general, Shanghai), 231, 236, 477.
Johnson, A. C. (consul, Stuttgart), 519.
Johnson, H. A. (consul, Venice), 70, 152, 214.
Jones, A. C. (consul, Chinkiang), 244.
Jones, W. S. (consul-general, Rome), 442, 586.
Karel, J. (consul-general, St. Petersburg), 114, 169, 175, 179, 180, 181, 184, 397, 407, 496, 531.
Kay, C. de (consul-general, Berlin), 65, 493.
Keenan, G. (consul, Bremen), 327.

Kennedy, D. C. (consul, Malta), 587.
Kirk, R. J. (consul, Copenhagen), 143, 540.
Little, W. M. (consul, Tegucigalpa), 566.
McIvor, N. W. (consul-general, Kanagawa), 252, 259, 424.
McGhee, F. C. (consul, Huddersfield), 52.
Man, E. A. (consul, Bergen), 148.
Mantius, W. E. (consul, Turin), 418.
Maratta, D. W. (consul-general, Melbourne), 157, 295, 297.
Mason, D. B. (vice and deputy consul, Frankfort), 219.
Mason, F. H. (consul-general, Frankfort), 310, 315, 392, 412.
Masterson, W. W. (consul, Aden), 587.
Mathews, G. G., jr. (consul, Para), 156.
Mertens, T. (consular agent, Grao), 119, 197.
Miller, J. H. (consul, Port Stanley, F. I.), 582.
Miller, R. L. (consul, Hull) 458.
Monaghan, J. C. (consul, Chemnitz), 94, 95, 96, 98, 102, 103, 104, 105, 122, 129, 324, 325, 326, 394, 445, 447, 449, 450, 452, 456, 460, 461, 462, 495, 583, 584, 585.
Moore, T. E. (commercial agent, Weimar), 177, 261, 380.
Morlan, A. E. (consul, Belize), 356, 357, 579.
Morris, H. C. (consul, Ghent), 145, 146, 304, 319, 375, 378, 379, 551, 585.
Muth, J. (consul, Magdeburg), 309, 504, 524.
O'Hara, T. (consul, San Juan del Norte), 155, 267, 269, 343, 345, 348, 556, 564, 565, 579.
Parker, G. F. (consul, Birmingham), 361.
Patterson, A. J. (consul, Demerara), 272, 328.
Penfield, F. C. (agent and consul-general, Cairo), 311.
Percival, L. H. (vice-commercial agent, St. Christopher), 138.
Plumacher, E. H. (consul, Maracaibo), 320, 359, 568.
Pooly, R. P. (consul, Sierra Leone), 420.
Pressly, C. P. (acting consul, Marseilles), 430.
Quinby, W. E. (minister, The Hague), 146, 465, 543.
Read, S. P. (consul, Tientsin), 237, 238, 455.
Ridgely, B. H. (consul, Geneva), 217, 517.
Robertson, W. H. (consul, Hamburg), 385, 387, 389, 511, 533.
Roosevelt, G. W. (consul, Brussels), 200.
Sawter, G. (consul, Glauchau), 107.
Schramm, E. (consul, Montevideo), 570, 574.
Seymour, W. H. (consul, Palermo), 209, 404, 458.
Sill, J. M. B. (consul-general, Seoul), 320.
Simon, A. M. (vice-consul, Hanover, 581.
Smithers, G. F. (consul, Chungking), 482, 484.
Smyth, C. (consul, Cartagena), 580.
Spence, P. B. (consul, Quebec), 158.
Stephan, T. M. (consul), Annaberg), 86, 92, 106, 110, 112, 152, 333, 381, 419, 586.
Stern, L. (commercial agent, Bamberg), 395, 503, 521.
Taney, J. B. (consul, Belfast), 198, 199, 369, 372, 531.
Tingle, E. W. S. (consul, Brunswick), 147.
Tucker, J. G. (consul, Martinique), 35, 578.
Wetter, E. T. (consul, Tamatave), 156, 301, 421.
Whiley, C. W., jr. (consul, St. Etienne), 85.
Wiesike, P. (consul, Managua), 268, 354, 502, 554, 555.

3 2044 105 232 235